



# 2017 Post-Closure Site Monitoring Report

Landfill and Resource  
Recovery (L&RR)  
Superfund Site  
North Smithfield,  
Rhode Island

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COMMITMENT & INTEGRITY DRIVE RESULTS

224263.70  
**L&RR Superfund Site**  
August 2017

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## 1. INTRODUCTION

This 2017 Post-Closure Site Monitoring (PCSM) Report documents Post-Closure Operation and Maintenance (O&M) activities conducted by the Performing Settling Defendants at the Landfill and Resource Recovery (L&RR) Superfund Site (the Site) located in North Smithfield, Rhode Island. A Site Plan is provided as Figure 1. This PCSM Report covers the reporting period from May 1, 2016 through April 30, 2017.

This Report has been prepared in accordance with the requirements of the Consent Decree and Remedial Design/Remedial Action (RD/RA) Statement of Work (SOW) as indicated in the table below.

<b>Post-Closure Site Monitoring Report Requirements, Specified in the Consent Decree and RD/RA SOW</b>	<b>Report Section Reference</b>
a. Map of the Site showing sample locations.	Figure 1, Site Plan
b. Tabular representation of laboratory results by each media including comparison with any standard levels, with exceedances of maximum contaminant levels (MCLs) and other Performance Standards highlighted.	Section 3. Annual Groundwater and Surface Water Monitoring; Tables 3 and 4
c. Laboratory results on a computer disc in a spreadsheet file such as Excel.	Section 3. Annual Groundwater and Surface Water Monitoring; Tables 3 and 4
d. Data validation packages.	Section 3.5. Data Validation; Appendix B
e. Interpretation of maintenance activities completed.	Section 2. Landfill Inspection and Maintenance Activities
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h. Explanation of problems encountered in the field and measures taken to mitigate the problems.	Section 5. Problems Encountered
i. Activities planned for the next reporting period.	Section 6. Activities Planned for Next Reporting

## 2. LANDFILL INSPECTION AND MAINTENANCE ACTIVITIES

Site visits were conducted to identify corrective measures, if any, for major landfill components that include the security system, cover integrity, stormwater management system, groundwater and gas monitoring wells, flare stack operation, and gas collection system. Site visits were conducted quarterly during the monitoring period in accordance with the Request to Modify Gas Monitoring and Well Field Tuning Frequency letter dated May 26, 2015, approved, by Environmental Protection Agency (EPA) on September 10, 2015.

These visits also included a complete round of monitoring for gas at wells designated as W-1 through W-18 and perimeter probes designated as GP-1 through GP-6, GP-8, GP-1R, and GP-4R on Figure 1. Copies of quarterly monitoring reports and inspection logs for the current reporting period are being submitted concurrently with the PCSM report and are included in Appendix A.

Highlights of the monthly/quarterly reports for May 2016 through April 2017 include the following:

- During flare operation, the flare inlet flow rate, temperature, and methane level fluctuated in comparison to historic results. This variability is attributed to decreasing methane levels and overall diminished gas yield from the landfill. A summary of the flare inlet flow rate, temperature, and methane level data collected during this reporting period are summarized in the following table:

	Inlet Flow Rate (cubic feet per minute [cfm])	Temperature (degrees Fahrenheit)	Methane Level (%)
<b>Minimum</b>	455	1,765	26.9
<b>Maximum</b>	484	1,821	37.8
<b>Average</b>	469	1,793	32.3

- The flare continues to operate using a timed on-off-on cycle throughout the reporting period with the following exceptions, including reason for flare shutdown and actions taken:
  - July 2016 through September 2016: Intermittent issues associated with the flare timer and the 4-day on / 3-day off cycle were encountered.
  - October 31, 2016 through November 17, 2016: Repair of the condensate knock-out discharge pump; system operation resumed on November 17, 2016 with no further issues. The pump was repaired and the system was restarted.
  - January 6, 2017 through January 23, 2017: Replacement of the air compressor's air-water separator.
  - February 9, 2017 through February 23, 2017: Flare shutdown due to a combination of a faulty air compressor pressure switch and a frozen airline; pressure switch replaced and frozen line cleared prior to flare restart.
- Bi-annual flare inspections were conducted on September 30, 2016 and December 19, 2016. During these visits, a representative from Woodard & Curran conducted an inspection of the flare, made necessary adjustments, and provided equipment parts.
- Perimeter compliance probes were monitored for methane, carbon dioxide, and oxygen levels during Site inspections. The monitoring network included perimeter probes GP-1R, GP-4R, GP-6, GP-8. Methane levels remained less than the 1.25% compliance target in each probe, indicating compliance. These results are summarized in reports provided in Appendix A.
- Approximately 13,300 gallons of condensate were pumped out by US Ecology (formerly Environmental Quality Company) and disposed at New Stream (MAC300005808) in Attleboro, Massachusetts and



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Tradebe Environmental Services, LLC (MAD062179890) in Stoughton, Massachusetts. Copies of waste manifests are attached to the quarterly reports in Appendix A.

- Annual flare inlet testing was conducted on July 15, 2016 and April 28, 2017, and sample results were compared with results from previous inlet sampling events.

These activities are discussed in further detail in Section 4.

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### 3. ANNUAL GROUNDWATER AND SURFACE WATER MONITORING

The 2017 Annual Groundwater and Surface Water Monitoring event occurred on April 5, 2017. Sampling was conducted by Geological Field Services, Inc. (GFS) of Salem, Massachusetts in accordance with the approved monitoring program for the Site as specified in the Post-Closure O&M Plan (*de maximis* Inc., September 1996) for the Site in the Sampling and Analysis Plan (SAP; USEPA March 7, 2014). Details regarding the water level measurements, groundwater sampling, surface water sampling and a discussion of the analytical results are provided in the following sections. The sampling locations are depicted on Figure 1. The laboratory analytical report is included in Appendix B.

#### 3.1 WATER LEVEL MEASUREMENTS

On April 5, 2017 as part of groundwater sampling activities, GFS obtained water level measurements from each of the seven wells proposed for sample collection. Measurements were collected using an electronic interface probe measured to the nearest 0.01 foot from the top of the designated measuring point. The water level measurements, provided on Table 1 were used to estimate groundwater flow direction at the Site as depicted in Figure 2. These interpretive groundwater flow contours include wells screened in multiple overburden aquifer sub-units and into the top of bedrock and therefore; represent a composite estimation of groundwater flow.

#### 3.2 GROUNDWATER SAMPLING

Groundwater samples were collected from seven monitoring wells identified as MW-201, MW-202, MW-102A, MW-103A, MW-104A, CW-5B, and CW-7B<sup>1</sup> as outlined in the Post-Closure O&M Plan groundwater monitoring program. The sampling locations are provided on Figure 1.

Groundwater samples were submitted for laboratory analysis of volatile organic compounds (VOCs), total and dissolved metals, and the following inorganic analyses: ammonia, chloride, biochemical oxygen demand, and chemical oxygen demand. During the 2017 event, samples were also submitted for low-level 1,4-dioxane analysis (using selective ion monitoring [SIM]) as described in the 2014 SAP. Table 2 presents a detailed list of field parameters and laboratory analyses and methods.

##### 3.2.1 Sample Collection

The monitoring wells were purged and sampled by GFS using the *EPA Region 1 Low Stress (low flow) Purg ing and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells*, Revision 3 (January 19, 2010). Prior to purging, the groundwater level in each monitoring well was measured to the nearest 0.01 foot using an electronic interface probe. The depth to water and historical well depth measurements were used to approximate the volume of standing water in each well.

Monitoring wells MW-201, MW-202, MW-102A, MW-103A, MW-104A, and CW-5B were purged using dedicated bladder sampling pumps and dedicated high-density polyethylene (HDPE) tubing. Monitoring well CW-7B was purged and sampled using a Durham Geoslope bladder pump that was decontaminated prior to introduction to the well and following sample collection. Groundwater samples collected for dissolved metals were field filtered using a 0.45-micron in-line filter prior to preservation. Field measurements (temperature, specific conductivity, dissolved oxygen, pH,

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<sup>1</sup> Since 2009, monitoring well CW-7B was sampled in place of CW-7A. Per the 2009 Annual Post-Closure Monitoring Report prepared by O&M, Inc., "A sample could not be collected from CW-7A due to failure of the dedicated sampling pump and the inability to remove the pump from the well. Therefore, per a recommendation from USEPA, a sample was collected from CW-7B."

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turbidity, and oxidation-reduction potential) were measured using a calibrated hand-held water quality meter (i.e., YSI-556 meter) as purging progressed. At the end of the sampling day, the equipment calibration drift was checked with the same standards used during the morning calibration. Groundwater samples were packed on ice and hand delivered to Alpha Analytical Laboratories (Alpha) on April 5, 2017 with a chain-of-custody.

The field data collected during purging was recorded on log sheets presented in Appendix C.

### 3.2.2 Groundwater Analytical Results

A summary of validated analytical data from the 2017 annual monitoring event are presented in Table 3, and discussed in further detail below. Analytical results from annual sampling events since 2012 are presented in Appendix D. Select analytes have been incorporated into a series of trend graphs for monitoring wells MW-104A, MW-102A, and CW-5B, corresponding to the period from 2009-2017. These graphs, provided in Appendix E, demonstrate improved or stable groundwater quality for select analytes over time.

The list of VOCs detected in groundwater remains comparable to those encountered during previous years of monitoring, however the order of magnitude of select analytes has reduced significantly at select locations. Improving groundwater quality, particularly in the deeper aquifer zone, verifies on-going attenuation mechanisms following steady-state conditions referenced in the Post-Closure O&M Plan (*de maximis*, Inc., 1996). Concentrations of VOCs were detected as follows: 1,4-dioxane (four wells); t-butyl alcohol (three wells), dichlorodifluoromethane, ethyl ether, 1,4-dichlorobenzene, naphthalene, tetrachloroethene (two wells); 1,1-dichloroethane, 1,2-dichloroethane, 1,2-dichloroethene, 1,2-dichloropropene, benzene, chlorobenzene, chloroethane, cis-1,2-dichloroethene (1), 1,2-dichloroethene, trichloroethene, vinyl chloride (one well). In addition, total metals were detected in each of the seven monitoring wells and dissolved fractions of metals were detected at six locations.

These results were also compared to applicable Maximum Contaminant Levels (MCLs). In general, concentrations of select analytes are below MCLs with the following exceptions:

- Vinyl chloride was reported at a concentration of 5.7 micrograms per liter ( $\mu\text{g/L}$ ) in monitoring well MW-102A (duplicate result 6.2  $\mu\text{g/L}$ ) exceeding the MCL of 2  $\mu\text{g/L}$ . Concentrations of vinyl chloride in this monitoring well have exceeded the MCL since May 2006 with concentrations ranging from 4.56 to 23  $\mu\text{g/L}$ . Concentrations of vinyl chloride were reported at 10.2  $\mu\text{g/L}$  or less in this monitoring well since May 2010 and continue to decline in comparison with pre-2006 levels.
- Total and dissolved arsenic were reported at concentrations exceeding the MCL of 10  $\mu\text{g/L}$  at MW-102A and MW-104A. For MW-102A, the concentration of total arsenic was 11  $\mu\text{g/L}$  and dissolved arsenic was 11  $\mu\text{g/L}$  (duplicate result 12  $\mu\text{g/L}$  [total] and 13  $\mu\text{g/L}$  (dissolved).) These concentrations have remained consistent since May 2006 ranging from 9.0 to 14  $\mu\text{g/L}$  (total) and 9.8 to 16  $\mu\text{g/L}$  (dissolved).

### 3.3 SURFACE WATER SAMPLING

Surface water samples were collected by GFS on April 5, 2017 from six locations identified as SW-5, SW-8, SW-10, SW-16, LCH-3, and LCH-5. The sampling locations are shown on Figure 1. Similar to the groundwater monitoring, samples from each surface water location were also submitted for laboratory analysis of low-level 1,4-dioxane in addition to routine annual monitoring analyses of VOCs, total and dissolved arsenic, and chloride. Table 2 outlines a list of the laboratory analyses, including analytical method, and field parameters tested at each sample location.

#### 3.3.1 Sample Collection

Surface water samples were collected from locations shown on Figure 1 using a peristaltic pump with dedicated polyethylene tubing for each sample location. Field parameters (temperature, specific conductivity, dissolved oxygen,

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pH, and turbidity) were measured at each sample location. Surface water samples collected for dissolved metals analysis were field filtered through a 0.45-micron filter prior to preservation. Samples were packed on ice and delivered to Alpha on April 5, 2017 with a chain-of-custody. Field parameters measured were recorded on field sheets provided in Appendix C.

### 3.3.2 Surface Water Analytical Results

A summary of the surface water analytical data from the 2017 annual monitoring event is presented in Table 4 and discussed in further detail below. Consistent with historic sampling results, concentrations of VOCs were detected as follows: 1,4-dioxane (five locations); acetone, ethyl ether, t-butyl alcohol (three locations); chlorobenzene, chloroethane, tetrahydrofuran, 1,4-dichlorobenzene (one location). In addition, chloride was detected at six sampling locations and arsenic was detected at two locations (dissolved) and three locations (total).

The 2017 surface water analytical results were compared to the Freshwater Acute or Chronic Aquatic Life Criteria and the Human Health Criteria for Consumption of Aquatic Organisms in general accordance with the Rhode Island Department of Environmental Management (RIDEM) Ambient Water Quality Criteria and Guidelines included in the Water Quality Regulations July 2006, amended December 2010. Concentrations of metals or VOCs detected in surface water were below these criteria, with the following exceptions:

- Concentrations of dissolved arsenic exceeded the Human Health Criteria for Consumption of Aquatic Organisms standard of 1.4 µg/L at surface water locations SW-10 (2 µg/L) and SW-8 (7 µg/L).
- Concentrations of total arsenic exceeded the Human Health Criteria for Consumption of Aquatic Organisms standard of 1.4 µg/L at surface water locations SW-10 (4 µg/L) and SW-8 (224 µg/L).

A comparison of the reported concentrations of total versus dissolved arsenic was also conducted. Similar to historic sampling events, concentrations of total metals are generally greater than, or equivalent to, concentrations of dissolved metals throughout surface water.

No other constituents were reported at concentrations exceeding the RIDEM water quality criteria in surface water during the 2017 sampling event.

## 3.4 QUALITY CONTROL SAMPLES

The following quality control samples were collected as part of the groundwater and surface water monitoring activities:

- A matrix spike and matrix spike duplicate (MS/MSD) were collected from monitoring well MW-201.
- A duplicate sample was collected from monitoring well MW-102A.
- An equipment blank was collected from all non-dedicated sampling equipment and submitted.
- A trip blank accompanied sample containers during shipment and were submitted for analysis of VOCs and 1,4-dioxane.

## 3.5 DATA VALIDATION

Analytical data collected during the 2017 monitoring event were validated by Data Check of Durham, New Hampshire as outlined in the March 2014 SAP. Data Check performed a Tier I Plus validation in accordance with the USEPA New England Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures (USEPA, 2013). The validation included a review of all laboratory and field quality control samples for a check of: sample custody; sample preservation; analytical holding times; surrogate recoveries; detected results for trip blank



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samples; calculated relative percent differences (comparing primary and duplicate samples); MS/MSD results, and laboratory control sample results.

Based on the outcome of the validation, data qualifiers were applied to reported analyte concentrations to indicate uncertainty or interference. These qualifiers will be retained on future data tabular summaries for use in project decisions. In general, criteria for data completeness were met for the laboratory data packages associated with the 2017 monitoring event. Exceptions are described in the validation reports included in Appendix B.

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## 4. ADDITIONAL ACTIVITIES FOR THIS PERIOD

This section discusses any additional activities conducted at the Site between May 2016 and April 2017.

### 4.1 PART-TIME FLARE OPERATION

To optimize flare operation and sustain active gas removal and thermal destruction, operation of the gas collection and treatment system was modified to operate on a timed “on-off-on” cycle of 3-days-on and 4-days-off beginning on October 26, 2017. To date, the system has remained effective at achieving regulatory compliance in the soil gas compliance probes while operating in a part-time mode of operation. Compliance data continues to support USEPA’s approval of reduced frequency of gas probe monitoring and well field tuning to quarterly intervals.

### 4.2 ANNUAL FLARE INLET GAS SAMPLING

On July 15, 2016 and April 28, 2017, a sample was collected of the landfill gas from the inlet to the combustion flare. This sample was collected using a Summa® canister over a 4-hour period and submitted for laboratory analysis of VOCs via USEPA Method TO-15. Sample results were compared to the results of the flare inlet sampling in December 2009, February 2014, December 2014, and November 2015. These results are presented in Table 5. The laboratory reports for samples collected in July 2016 and April 2017 are included in Appendix F.

The 11 Contaminants of Concern (COC) for air from the 1988 L&RR Landfill Record of Decision (ROD) Summary, Table 5, are highlighted in bold font. Five of the 11 COCs were not detected in the 2016 samples, while four of the 11 COCs were not detected in the 2017 samples. The remaining seven COCs persist at concentrations above minimum laboratory reporting limits. The next sampling event is scheduled for Fall 2017.

### 4.3 RESIDENTIAL WELL SAMPLING

Samples were collected from eight residential drinking water wells located along Pound Hill Road on June 7, 2016, October 4, 2016, and April 5, 2017 as part of on-going monitoring of drinking water quality downgradient of the landfill. During the April 5, 2017, a sample was collected from the residence at 1301 Pound Hill Road for the first time. Prior to this event, attempts to coordinate collection of a sample at this residence were unsuccessful. Samples were previously collected in October 2015 at this location, and several attempts to coordinate collection of a sample at this residence were unsuccessful. Samples collected in April 2017 were included as part of the Pre-ROD Monitoring requirement as part of the Remedial Investigation/Feasibility Study (RI/FS) for Operable Unit 2 (OU 2). Samples were collected in accordance with the Quality Assurance Project Plan included with the Field Sampling Plan as part the Interim Final RI/FS Work Plan (dated May 23, 2016) for analysis of VOCs and 1,4-dioxane.

The analytical results indicated that no concentrations of Site-related VOCs or 1,4-dioxane were detected above the laboratory’s minimum reporting limit. A summary of the results is provided in Table 6. Analytical results were provided to USEPA Region 1 for distribution to the property owners (Woodard & Curran electronic transmittal, May 8, 2017).

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## 5. PROBLEMS ENCOUNTERED

### 5.1 GROUNDWATER AND SURFACE WATER MONITORING

No problems were encountered in the field during the groundwater and surface water sampling events for the reporting event.

### 5.2 FLARE PERFORMANCE

System and operational maintenance and improvements continued during this reporting period (May 2016 through May 2017) to support flare performance. No problems were encountered that resulted in performance related to flare shutdowns during the reporting period.

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## 6. ACTIVITIES PLANNED FOR NEXT REPORTING PERIOD

Activities planned for the next reporting period (May 2017 through April 2018) include the following:

Activity	Schedule
Landfill & Flare Inspection	Quarterly
Methane Migration Monitoring	Quarterly
Bi-Annual Flare Inspection	Fall 2017 and Spring 2018
Annual Groundwater and Surface Water Monitoring	Spring 2018
Routine Operational Practices	Ongoing
Flare Inlet Sampling	Annually



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## TABLES

**Table 1:**  
**Groundwater Measurement and Elevation Summary**  
L&RR Superfund Site, North Smithfield, Rhode Island

Well Location	Geologic Unit <sup>(1)</sup>	Hydro-geologic Unit <sup>(2)</sup>	Screened Interval (ftb TOC)		MP Elevation (ft amsl)	Measured Well Depth (ftb TOC)	4/5/2017	
			Top	Bottom			Water Level (ftb TOC)	Water Elevation (ft amsl)
MW -101	BR	FR BR	74.2	79.5	329.07	83.4	--	--
MW - 102A	UN	IC	62.7	73.3	258.03	NM	10.45	247.58
MW - 102B	UN	K	28.9	39.4	253.74	41.07	--	--
MW - 103A	BR	FR BR	39.2	55.1	268.48	NM	13.76	254.72
MW - 103B	UN	K	12.0	21.8	268.57	29.26	--	--
MW - 104A	UN	IC	43.5	54.0	263.54	54.02	17.32	246.22
MW - 104B	UN	K	14.5	24.0	263.77	25.56	--	--
CW - 5A	BR	FR BR	125.0	135.0	304.31	136.68	--	--
CW - 5B	UN	IC	92.0	102.0	303.92	NM	56.42	247.50
CW - 5C	UN	K	48.5	68.5	303.98	68.52	--	--
CW - 6A	BR	FR BR	82.0	92.0	264.06	98.13	--	--
CW - 6B	UN	IC	51.0	61.0	261.74	NM	--	--
CW - 6C	UN	K	13.0	33.0	263.98	NM	--	--
CW - 7A	UN/BR	IC/FR BR	37.0	47.0	255.59	48.22	--	--
CW - 7B	UN	IC	27.0	37.0	255.50	46.39	7.85	247.65
CW - 7C	UN	K	7.0	27.0	255.05	NM	--	--
MW-201	UN/BR	IC	69.0	89.0	320.25	90.68	68.50	251.75
MW-202	UN/BR	IC	21.0	38.6	253.26	38.32	9.22	244.04

Notes:

Abbreviations:

NM - not measured

ft amsl - feet above mean sea level

ftb toc - feet below top of casing

MP - measuring point

(1) BR - Bedrock

UN - Unconsolidated

(2) FR BD - Fractured Bedrock

K - Kame

IC - Ice Contact

W - Wetland

**Table 2: Summary of Post-Closure Monitoring Analytical Parameters and Methods**

April 2017  
L&RR Superfund Site – North Smithfield, RI

Sampling Medium	Parameter	Analytical Method
Groundwater	VOCs	8260C
	1,4-Dioxane	8270 SIM
	Arsenic (Total)	6010C
	Arsenic (Dissolved)	6010C
	Cadmium (Total)	6010C
	Cadmium (Dissolved)	6010C
	Lead (Total)	6010C
	Lead (Dissolved)	6010C
	Iron	6010C
	Manganese (Total)	6010C
	Manganese (Dissolved)	6010C
	Chloride	300.0
	Ammonia	350.1
	COD	410.4
	BOD	SM 5210B
	EDB	504.1
	DBCP	504.1
Surface Water	VOCs	8260C
	1,4-Dioxane	8270 SIM
	Arsenic (Total)	6010C
	Arsenic (Dissolved)	6010C
	Chloride	300.0

**Table 3:**  
**2017 Groundwater Analytical Results**  
 L&RR Superfund Site, North Smithfield, Rhode Island

**Table 3:**  
**2017 Groundwater Analytical Results**  
L&RR Superfund Site, North Smithfield, Rhode Island

Sample ID Sample Date	CAS Number	MCLs	Units	CW-5B		CW-7B		MW-102A		DUP-1 (MW-102A)		MW-103A		MW-104A		MW-201		MW-202	
				4/5/2017		4/5/2017		4/5/2017		4/5/2017		4/5/2017		4/5/2017		4/5/2017		4/5/2017	
				Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Benzene, Propyl-	103-65-1	NE	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	95-47-6	10000	ug/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
sec-Butylbenzene	135-98-8	NE	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	75-65-0	NE	ug/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
tert-Butyl Alcohol	994-05-8	NE	ug/L	10	U	<b>4.9</b>	J+	<b>1.4</b>	J+	10	U	10	U	<b>4.2</b>	J+	10	U	10	U
Tertiary-Amyl Methyl Ether	637-92-3	NE	ug/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Ethyl-Tert-Butyl-Ether	98-06-6	NE	ug/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Tetrachloroethene	127-18-4	5	ug/L	<b>1.1</b>		0.5	U	<b>0.9</b>		<b>0.93</b>		0.5	U	0.5	U	0.5	U	0.5	U
Tetrahydrofuran	109-99-9	NE	ug/L	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Toluene	108-88-3	1000	ug/L	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U	0.75	U
trans-1,2-Dichloroethene	156-60-5	100	ug/L	0.75	U	0.75	U	<b>0.66</b>	J	<b>0.64</b>	J	0.75	U	0.75	U	0.75	U	0.75	U
trans-1,3-Dichloropropene	10061-02-6	NE	ug/L	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,4-Dichloro-2-butene	110-57-6	NE	ug/L	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
Trichloroethene	79-01-6	5	ug/L	0.2	U	0.2	U	<b>2.2</b>		<b>2.2</b>		0.2	U	0.2	U	0.2	U	0.2	U
Trichlorofluoromethane	75-69-4	NE	ug/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Vinyl chloride	75-01-4	2	ug/L	0.2	U	0.2	U	<b>5.7</b>		<b>6.2</b>		0.2	U	0.2	U	0.2	U	0.2	U
Xylenes, Total	1330-20-7	10000	ug/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U

Notes:

μg/L = micrograms per liter

mg/L = milligrams per liter

**BOLD** results indicate those detected above the laboratory reporting limit

SHADED results indicate those in exceedance of the MCL for that constituent

MCLs = Maximum Contaminant Levels as specified by the USEPA

NE = MCL has not been established for the specific analyte

Data validated in accordance with EPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures (EPA, 2013).

J+ = Result estimated, biased high

J = Result estimated, bias unknown

UJ = Result estimated at the reporting limit

U = non-detect result quantified at the instrument reporting limit

**Table 4:**  
2017 Surface Water Analytical Results  
L&RR Superfund Site, North Smithfield, Rhode Island

Sample ID Sample Date	CAS Number	Acute FALC	Chronic FALC	HHC CAO	RIDEM Water Quality Criteria	Units	LCH-3		LCH-5		SW-5		SW-8		SW-10		SW-16	
							4/5/2017		4/5/2017		4/5/2017		4/5/2017		4/5/2017		4/5/2017	
							Result	Qualifier										
<b>Inorganics</b>																		
Chloride	16887-00-6	860,000	230,000	NE	NE	ug/l	1.26		0.982		2.66		15.9		11.4		8.78	
Arsenic (Dissolved)	7440-38-2	340	150	1.4	NE	ug/l	5	U	5	U	5	U	7		2		5	U
Arsenic (Total)	7440-38-2	340	150	1.4	NE	ug/l	2	J	5	U	5	U	224		4	J	5	U
<b>Volatile Organic Compounds</b>																		
1,1,1,2-Tetrachloroethane	630-20-6	NE	NE	NE	NE	ug/l	0.5	U										
1,1,1-Trichloroethane	71-55-6	NE	NE	NE	NE	ug/l	0.5	U										
1,1,2,2-Tetrachloroethane	79-34-5	466	10	40	NE	ug/l	0.5	U										
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	900	20	160	NE	ug/l	10	U										
1,1,2-Trichloroethane	79-00-5	NE	NE	NE	NE	ug/l	0.75	U										
1,1-Dichloroethane	75-34-3	NE	NE	NE	NE	ug/l	0.75	U										
1,1-Dichloroethylene	75-35-4	580	13	7,100	NE	ug/l	0.5	U										
1,1-Dichloropropene	563-58-6	NE	NE	NE	NE	ug/l	1	U	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichlorobenzene	87-61-6	NE	NE	NE	NE	ug/l	1	U	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichloropropane	96-18-4	NE	NE	NE	NE	ug/l	1	U	1	U	1	U	1	U	1	U	1	U
1,2,4-Trichlorobenzene	120-82-1	NE	NE	NE	NE	ug/l	1	U	1	U	1	U	1	U	1	U	1	U
1,2,4-Trimethylbenzene	95-63-6	NE	NE	NE	NE	ug/l	1	U	1	U	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	96-12-8	NE	NE	NE	NE	ug/l	1	U	1	U	1	U	1	U	1	U	1	U
1,2-Dichlorobenzene	95-50-1	NE	NE	NE	NE	ug/l	1	U	1	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	107-06-2	5,900	131	370	NE	ug/l	0.5	U										
1,2-Dichloroethene	540-59-0	NE	NE	NE	NE	ug/l	0.5	U										
1,2-Dichloropropane	78-87-5	2,625	58	150	NE	ug/l	1	U	1	U	1	U	1	U	1	U	1	U
1,3,5-Trichlorobenzene	108-70-3	NE	NE	NE	NE	ug/l	1	U	1	U	1	U	1	U	1	U	1	U
1,3,5-Trimethylbenzene	108-67-8	NE	NE	NE	NE	ug/l	1	U	1	U	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	541-73-1	390	8.7	960	NE	ug/l	1	U	1	U	1	U	1	U	1	U	1	U
1,3-Dichloropropane	142-28-9	NE	NE	NE	NE	ug/l	1	U	1	U	1	U	1	U	1	U	1	U
1,3-Dichloropropene, Total	542-75-6	NE	NE	NE	NE	ug/l	0.5	U										
1,4-Dichlorobenzene	106-46-7	56	1.2	190	NE	ug/l	1	U	1	U	1	U	0.54	J	1	U	1	U
1,4-Dioxane (SIM)	123-91-1	NE	NE	NE	NE	ug/l	0.153	U	1.24		0.15		6.53		10.7		8.44	
2,2-Dichloropropane	594-20-7	NE	NE	NE	NE	ug/l	1	U	1	U	1	U	1	U	1	U	1	U
2-Hexanone	591-78-6	NE	NE	NE	NE	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
4-Methyl-2-pentanone	108-10-1	NE	NE	NE	NE	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Acetone	67-64-1	NE	NE	NE	NE	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Acrylonitrile	107-13-1	378	8.4	2.5	NE	ug/l	5	U	5	U	5	U	5	U	5	U	5	U
Benzene	71-43-2	265	5.9	510	NE	ug/l	0.2	U										
Benzene, Propyl-	103-65-1	NE	NE	NE	NE	ug/l	0.5	U										
Bromobenzene	108-86-1	NE	NE	NE	NE	ug/l	1	U	1	U	1	U	1	U	1	U	1	U
Bromochloromethane	74-97-5	NE	NE	NE	NE	ug/l	1	U	1	U	1	U	1	U	1	U	1	U
Bromodichloromethane	75-27-4	NE	NE	NE	NE	ug/l	0.5	U										
Bromoform	75-25-2	1,465	33	1,400	NE	ug/l	1	U	1	U	1	U	1	U	1	U	1	U
Bromomethane	74-83-9	NE	NE	NE	NE	ug/l	1	U	1	U	1	U	1	U	1	U	1	U
Carbon disulfide	75-15-0	NE	NE	NE	NE	ug/l	1	U	1	U	1	U	1	U	1	U	1	U
Carbon tetrachloride	56-23-5	1,365	30	16	NE	ug/l	0.2	U										
Chlorobenzene	108-90-7	795	18	1,600	NE	ug/l	0.5	U	0.5	U	0.5	U	0.38	J	0.5	U	0.5	U
Chloroethane	75-00-3	NE	NE	NE	NE	ug/l	1	U	1	U	1	U	1	U	0.37	J	1	U
Chloroform	67-66-3	1,445	32	4,700	NE	ug/l	0.75	U	0.75	U	0.75	U						

TABLE 5

**L&RR Landfill, North Smithfield, RI**  
**Flare Inlet Gas Samples,**  
**TO-15 Data Summary**

## Notes:

Analytes in **BOLD** font are the L&RR Site Contaminants of Concern for air listed in the 1988 Record of Decision Summary,

<b>ANALYTE</b>	<b>DATE SAMPLED</b>	<b>12/23/09</b>			<b>02/27/14</b>	<b>12/03/14</b>			<b>11/12/15</b>	<b>7/15/2016</b>	<b>4/28/2017</b>
		<b>Run 1</b>	<b>Run 2</b>	<b>Run 3</b>		<b>Run 1</b>	<b>Run 2</b>	<b>Run 3</b>			
Acetone (2-propanone)	ppbv	2430	2560	6960	3500	<780	<500	<420	3000	6400	4100
<b>Benzene</b>	<b>ppbv</b>	<b>2800</b>	<b>3100</b>	<b>2730</b>	<b>2300</b>	<b>2450</b>	<b>2330</b>	<b>2800</b>	<b>2200</b>	<b>1900</b>	<b>880</b>
Benzyl chloride	ppbv	ND	ND	ND	<1.0	<190	<180	<190	<30	<30	<3.0
Bromodichloromethane	ppbv	ND	ND	ND	<1.0	<38	<36	<38	<30	<30	<3.0
Bromoform	ppbv	ND	ND	ND	<1.0	<38	<36	<38	<30	<30	<3.0
Bromomethane	ppbv	ND	ND	ND	<1.0	<34	<32	<34	<30	<30	<3.0
1,3-Butadiene	ppbv	ND	ND	ND	<1.0	<95	<90	<95	<30	<30	<3.0
2-Butanone (Methyl Ethyl Ketone)	ppbv	2260	2410	3320	2000	<570	<540	<570	3800	2800	1900
Carbon Disulfide	ppbv	70	ND	ND	20	<95	<90	<95	<300	<300	<30
<b>Carbon Tetrachloride</b>	<b>ppbv</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>&lt;1.0</b>	<b>&lt;57</b>	<b>&lt;54</b>	<b>&lt;57</b>	<b>&lt;30</b>	<b>&lt;30</b>	<b>&lt;3.0</b>
Chlorobenzene	ppbv	192	224	175	200	263	265	344	550	580	65
Chloroethane	ppbv	185	278	203	79	119	112	133	97	120	73
<b>Chloroform</b>	<b>ppbv</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>&lt;1.0</b>	<b>&lt;29</b>	<b>&lt;27</b>	<b>&lt;29</b>	<b>&lt;30</b>	<b>&lt;30</b>	<b>&lt;3.0</b>
Chloromethane (methyl chloride)	ppbv	ND	ND	ND	6.6	63	<54	<57	<60	84	16
Cyclohexane	ppbv	1860	2050	1940	590	1050	992	1200	1500	1400	780
Dibromochloromethane	ppbv	ND	ND	ND	<1.0	<38	<36	<38	<30	<30	<3.0
1,2-Dibromoethane (Ethylene Dibromide)	ppbv	ND	ND	ND	<1.0	<32	<31	<32	<30	<30	<3.0
1,2-Dichlorobenzene	ppbv	ND	ND	ND	<1.0	<76	<72	<76	56	49	<3.0
1,3-Dichlorobenzene	ppbv	ND	ND	ND	<1.0	<76	<72	<76	<30	<30	<3.0
1,4-Dichlorobenzene	ppbv	178	231	ND	460	179	177	238	370	220	<3.0
Dichlorodifluoromethane (Freon 12)	ppbv	291	328	320	280	120	120	138	590	290	250
1,1-Dichloroethane	ppbv	202	213	193	76	177	191	230	230	240	78
<b>1,2-Dichloroethane</b>	<b>ppbv</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>&lt;1.0</b>	<b>&lt;38</b>	<b>&lt;36</b>	<b>&lt;38</b>	<b>&lt;30</b>	<b>&lt;30</b>	<b>&lt;3.0</b>
<b>1,1-Dichloroethylene</b>	<b>ppbv</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>&lt;1.0</b>	<b>&lt;48</b>	<b>&lt;45</b>	<b>&lt;48</b>	<b>&lt;30</b>	<b>&lt;30</b>	<b>6.7</b>
cis-1,2-Dichloroethylene	ppbv	433	472	422	280	552	536	674	910	800	230
trans-1,2-Dichloroethylene	ppbv	32	ND	ND	14	<38	<36	<38	<30	35	9.9
1,2-Dichloropropane	ppbv	ND	ND	ND	15	<76	<72	<76	<30	49	16
cis-1,3-Dichloropropene	ppbv	ND	ND	ND	<1.0	<34	<32	<34	<30	<30	<3.0
trans-1,3-Dichloropropene	ppbv	ND	ND	ND	<1.0	<32	<31	<32	<30	<30	<3.0
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ppbv	124	135	132	64	121	122	139	100	110	86
1,4-Dioxane	ppbv	ND	ND	ND	<10	<380	<360	<380	340	550	140
Ethanol	ppbv	19500	19000	18600	6500	<580	<410	<440	11000	20000	7600

TABLE 5

**L&RR Landfill, North Smithfield, RI**  
**Flare Inlet Gas Samples,**  
**TO-15 Data Summary**

Notes:

Analytes in **BOLD** font are the L&RR Site  
 Contaminants of Concern for air listed in  
 the 1988 Record of Decision Summary,

<b>ANALYTE</b>	<b>DATE SAMPLED</b>	<b>12/23/09</b>			<b>02/27/14</b>	<b>12/03/14</b>			<b>11/12/15</b>	<b>7/15/2016</b>	<b>4/28/2017</b>
		<b>Run 1</b>	<b>Run 2</b>	<b>Run 3</b>		<b>Run 1</b>	<b>Run 2</b>	<b>Run 3</b>			
Ethyl Acetate	ppbv	867	940	ND	610	<420	<400	<420	620	1000	540
<b>Ethylbenzene</b>	<b>ppbv</b>	<b>8760</b>	<b>9680</b>	<b>7680</b>	<b>4700</b>	<b>7810</b>	<b>7610</b>	<b>9610</b>	<b>4100</b>	<b>9000</b>	<b>2400</b>
4-Ethyltoluene	ppbv	321	ND	ND	430	<420	403	517	570	490	20
Heptane	ppbv	1460	1590	1370	620	1210	1140	1390	1500	1600	620
Hexachlorobutadiene	ppbv	ND	ND	ND	<1.0	<570	<540	<570	<30	<30	<3.0
Hexane	ppbv	1580	1820	1690	860	2500	2030	2600	1600	2300	840
2-Hexanone (Methyl Butyl Ketone)	ppbv	ND	ND	ND	<1.0	<380	<360	<380	<30	<30	<6.0
Isopropanol (2 propanol)	ppbv	4220	4290	4330	2100	<570	<540	<570	1800	5300	2100
Methyl tert-Butyl Ether (MTBE)	ppbv	ND	ND	ND	<1.0	<38	<36	<38	<30	<30	3.7
<b>Methylene Chloride (Dichloromethane)</b>	<b>ppbv</b>	<b>157</b>	<b>ND</b>	<b>ND</b>	<b>60</b>	<b>&lt;580</b>	<b>&lt;320</b>	<b>&lt;450</b>	<b>470</b>	<b>&lt;300</b>	<b>50</b>
4-Methyl-2-pentanone (Methyl Isobutyl Ketone)	ppbv	ND	ND	ND	<1.0	<610	<580	<610	<30	490	250
Naphthalene	ppbv	.	.	.	390				140	220	<3.0
Propene	ppbv	7040	7360	7220	<40	4740	4510	5400	9400	10000	14000
Styrene	ppbv	190	296	184	140	104	95	121	160	160	15
<b>1,1,2,2-Tetrachloroethane</b>	<b>ppbv</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>&lt;1.0</b>	<b>&lt;38</b>	<b>&lt;36</b>	<b>&lt;38</b>	<b>&lt;30</b>	<b>&lt;30</b>	<b>&lt;3.0</b>
<b>Tetrachloroethylene</b>	<b>ppbv</b>	<b>135</b>	<b>146</b>	<b>122</b>	<b>79</b>	<b>93</b>	<b>92</b>	<b>110</b>	<b>1000</b>	<b>740</b>	<b>42</b>
Tetrahydrofuran	ppbv	1410	1700	1600	630	<76	<72	<76	940	1200	600
<b>Toluene</b>	<b>ppbv</b>	<b>41800</b>	<b>54300</b>	<b>45500</b>	<b>13000</b>	<b>35400</b>	<b>27300</b>	<b>35300</b>	<b>6000</b>	<b>24000</b>	<b>13000</b>
1,2,4-Trichlorobenzene	ppbv	ND	ND	ND	17	<380	<360	<380	<30	<30	<3.0
1,1,1-Trichloroethane	ppbv	ND	ND	ND	<1.0	<57	<54	<57	<30	<30	<3.0
1,1,2-Trichloroethane	ppbv	ND	ND	ND	<1.0	<29	<27	<29	<30	<30	<3.0
<b>Trichloroethylene</b>	<b>ppbv</b>	<b>91</b>	<b>98</b>	<b>ND</b>	<b>43</b>	<b>70</b>	<b>78</b>	<b>89</b>	<b>120</b>	<b>120</b>	<b>35</b>
Trichlorofluoromethane (Freon 11)	ppbv	ND	ND	ND	3.5	<38	<36	<38	<120	<120	<12
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ppbv	ND	ND	ND	3	<29	<27	<29	<120	<120	<12
1,2,4-Trimethylbenzene	ppbv	921	1100	924	750	998	981	1270	1500	1000	7.4
1,3,5-Trimethylbenzene	ppbv	455	532	463	580	525	515	650	720	560	11
Vinyl Acetate	ppbv	ND	130	ND	<20	<38	<36	<38	<600	<600	<60
Vinyl Chloride	ppbv	1330	1380	1290	550	878	891	1070	830	960	590
m&p-Xylene	ppbv	15300	17500	13500	7700	13400	13100	16600	4600	15000	3100
o-Xylene	ppbv	3340	3830	2960	2000	3240	3160	4030	4100	4200	700

**Table 6**  
**2016 - 2017 Residential Drinking Water Analytical Results**  
L&RR Superfund Site, North Smithfield, Rhode Island

Sample Location Sample Date	CAS Number	Units	DW-1301 Pound Hill		DW-1305 Pound Hill		DW-1305 Pound Hill		DW-1309 Pound Hill		DW-1309 Pound Hill		DW-1313 Pound Hill		DW-1313 Pound Hill		DW-1317 Pound Hill		DW-1317 Pound Hill		DW-1325 Pound Hill		DW-1325 Pound Hill				
			4/5/2017		6/7/2016		10/4/2016		4/5/2017		6/7/2016		10/4/2016		4/5/2017		6/7/2016		10/4/2016		4/5/2017		6/7/2016		10/4/2016		
			Result	Qualifier	Result	Qualifier																					
<b>Volatile Organic Compounds</b>																											
1,2-Dichlorobenzene	95-50-1	ug/l	0.5	U	0.5	U	0.5																				
1,4-Dichlorobenzene	106-46-7	ug/l	0.5	U	0.5	U	0.5																				
1,1,1,2-Tetrachloroethane	630-20-6	ug/l	0.5	U	0.5	U	0.5																				
1,1,1-Trichloroethane	71-55-6	ug/l	0.5	U	0.5	U	0.5																				
1,1,2-Tetrachloroethane	79-34-5	ug/l	0.5	U	0.5	U	0.5																				
1,1,2-Trichloroethane	79-00-5	ug/l	0.5	U	0.5	U	0.5																				
1,1-Dichloroethane	75-34-3	ug/l	0.5	U	0.5	U	0.5																				
1,1-Dichloroethene	75-35-4	ug/l	0.5	U	0.5	U	0.5																				
1,1-Dichloropropene	563-58-6	ug/l	0.5	U	0.5	U	0.5																				
1,2,3-Trichlorobenzene	87-61-6	ug/l	0.5	U	0.5	U	0.5																				
1,2,3-Trichloropropane	96-18-4	ug/l	0.5	U	0.5	U	0.5																				
1,2,4-Trichlorobenzene	120-82-1	ug/l	0.5	U	0.5	U	0.5																				
1,2,4-Trimethylbenzene	95-63-6	ug/l	0.5	U	0.5	U	0.5																				
1,2-Dibromo-3-chloropropane	96-12-8	ug/l	0.5	U	0.01	U	0.5	U	0.5	U	0.01	U	0.5	U	0.01	U	0.5	U	0.01	U	0.5	U	0.011	U	0.5	U	0.5
1,2-Dichloroethane	107-06-2	ug/l	0.5	U	0.5	U	0.5																				
1,2-Dichloropropane	78-87-5	ug/l	0.5	U	0.5	U	0.5																				
1,3,5-Trimethylbenzene	108-67-8	ug/l	0.5	U	0.5	U	0.5																				
1,3-Dichlorobenzene	541-73-1	ug/l	0.5	U	0.5	U	0.5																				
1,3-Dichloropropane	142-28-9	ug/l	0.5	U	0.5	U	0.5																				
1,4-Dioxane	123-91-1	ug/l	0.142	U	0.153	U	0.153	U	0.147	U	0.16	U	0.144	U	0.153	U	0.144	U	0.156	U	0.142	U	0.142	U	0.144	U	0.144
2,2-Dichloropropane	594-20-7	ug/l	0.5	U	0.5	U	0.5																				
Benzene	71-43-2	ug/l	0.5	U	0.5	U	0.5																				
Benzene, Propyl-	103-65-1	ug/l	0.5	U	0.5	U	0.5																				
Bromobenzene	108-86-1	ug/l	0.5	U	0.5	U	0.5																				
Bromochloromethane	74-97-5	ug/l	0.5	U	0.5	U	0.5																				
Bromodichloromethane	75-27-4	ug/l	0.5	U	0.5	U	0.5																				
Bromoform	75-25-2	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0																

**Table 6**  
**2016 - 2017 Residential Drinking Water Analytical Results**  
L&RR Superfund Site, North Smithfield, Rhode Island

Sample Location Sample Date	CAS Number	Units	DW-1363 Pound Hill	DW-1363 Pound Hill	DW-1363 Pound Hill	DW-1375 Pound Hill	DW-1375 Pound Hill	DW-1375 Pound Hill	DW-1431 Pound Hill	DW-1431 Pound Hill	DW-1431 Pound Hill
			6/7/2016	10/4/2016	4/5/2017	6/7/2016	10/4/2016	4/5/2017	6/7/2016	10/4/2016	4/5/2017
			Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result
<b>Volatile Organic Compounds</b>											
1,2-Dichlorobenzene	95-50-1	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
1,4-Dichlorobenzene	106-46-7	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
1,1,1,2-Tetrachloroethane	630-20-6	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
1,1,1-Trichloroethane	71-55-6	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
1,1,2,2-Tetrachloroethane	79-34-5	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
1,1,2-Trichloroethane	79-00-5	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
1,1-Dichloroethane	75-34-3	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
1,1-Dichloroethylene	75-35-4	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
1,1-Dichloropropene	563-58-6	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
1,2,3-Trichlorobenzene	87-61-6	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
1,2,3-Trichloropropane	96-18-4	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
1,2,4-Trichlorobenzene	120-82-1	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
1,2,4-Trimethylbenzene	95-63-6	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
1,2-Dibromo-3-chloropropane	96-12-8	ug/l	0.01	U	0.5	U	0.01	U	0.5	U	0.01
1,2-Dichloroethane	107-06-2	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
1,2-Dichloropropane	78-87-5	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
1,3,5-Trimethylbenzene	108-67-8	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
1,3-Dichlorobenzene	541-73-1	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
1,3-Dichloropropane	142-28-9	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
1,4-Dioxane	123-91-1	ug/l	0.153	U	0.142	U	0.142	U	0.142	U	0.153
2,2-Dichloropropane	594-20-7	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Benzene	71-43-2	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Benzene, Propyl-	103-65-1	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Bromobenzene	108-86-1	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Bromochloromethane	74-97-5	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Bromodichloromethane	75-27-4	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Bromoform	75-25-2	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Bromomethane	74-83-9	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Carbon tetrachloride	56-23-5	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Chlorobenzene	108-90-7	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Chloroethane	75-00-3	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Chloroform	67-66-3	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Chloromethane	74-87-3	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
cis-1,2-Dichloroethene	156-59-2	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
cis-1,3-Dichloropropene	10061-01-5	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Dibromochloromethane	124-48-1	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Dibromomethane	74-95-3	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Dichlorodifluoromethane	75-71-8	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Ethylbenzene	100-41-4	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Ethylene dibromide	106-93-4	ug/l	0.01	U	0.5	U	0.01	U	0.5	U	0.01
Hexachlorobutadiene	87-68-3	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Isopropylbenzene	98-82-8	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Methyl tert butyl ether	1634-04-4	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Methylene chloride	75-09-2	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Naphthalene	91-20-3	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
n-Butylbenzene	104-51-8	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
o-Chlorotoluene	95-49-8	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
o-Xylene	95-47-6	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
p/m-Xylene	179601-23-1	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
p-Chlorotoluene	106-43-4	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
p-Isopropyltoluene	99-87-6	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
sec-Butylbenzene	135-98-8	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Styrene	100-42-5	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
tert-Butylbenzene	98-06-6	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Tetrachloroethene	127-18-4	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Toluene	108-88-3	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
trans-1,2-Dichloroethene	156-60-5	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
trans-1,3-Dichloropropene	10061-02-6	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Trichloroethene	79-01-6	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Trichlorofluoromethane	75-69-4	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Vinyl chloride	75-01-4	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5
Xylene (Total)	1330-20-7	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5

Notes:

ug/l = micrograms per liter; mg/L = milligrams per liter; C = degrees celsius;  
SU = standard units; umhos/cm = micromhos per centimeter; mV =  
millivolts; NTU = nephelometric turbidity units

**BOLD** indicates results detected above the laboratory reporting limit

Data validated in accordance with EPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures (EPA, 2013).

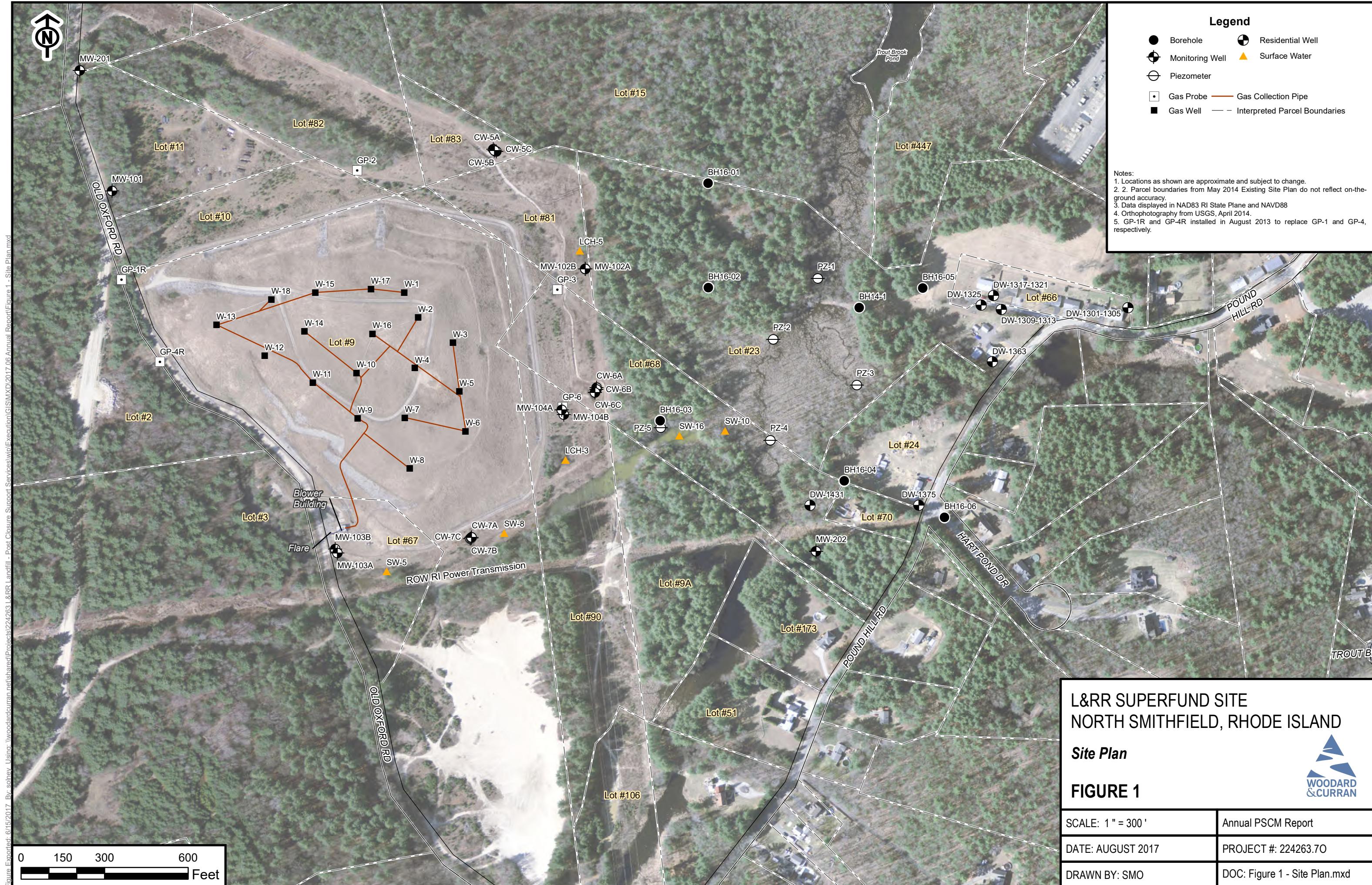
J = Result estimated

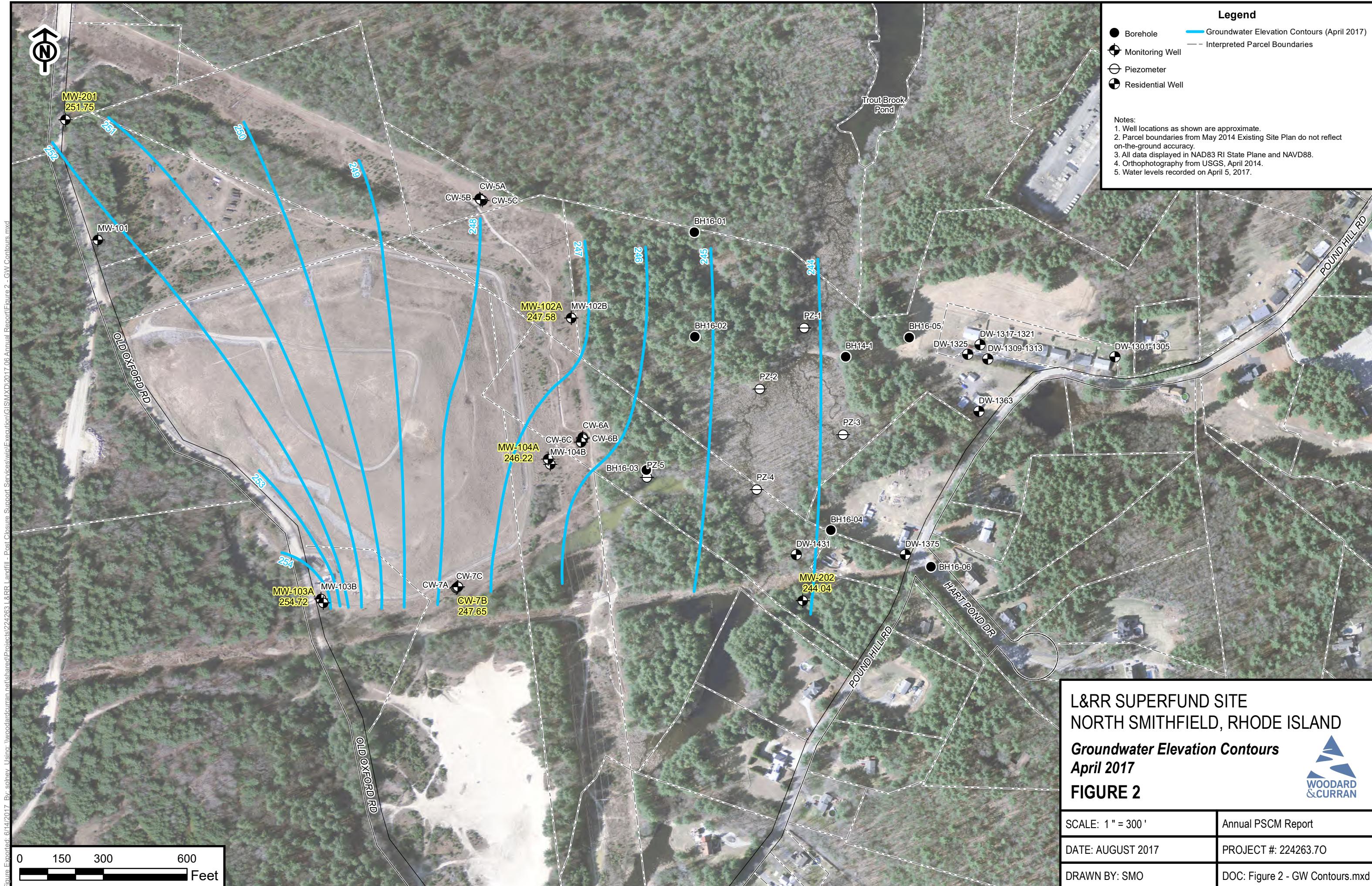
U = non-detect result quantified at the instrument reporting limit



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## FIGURES







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## **APPENDIX A: QUARTERLY INSPECTION REPORTS (APRIL 2016 THROUGH MARCH 2017)**



August 22, 2017

Ms. Anna Krasko  
U.S. EPA Region 1  
Mail Code: OSRR07-1  
5 Post Office Square – Suite 100  
Boston, MA 02109-3912

Re: Landfill and Resource Recovery, Inc. Superfund Site  
Quarterly Progress Report – April 2016 thru June 2016

Dear Ms. Krasko:

On behalf of the L&RR Performing Settling Defendants (Group) and pursuant to the Settlement Agreement and Consent Decree, this quarterly report summarizes site activities completed between April 1, 2016 and June 30, 2016 by Woodard & Curran. As discussed in the previous reporting, the gas probe monitoring and wellfield tuning changed from monthly to quarterly frequency. Based on this change the first quarterly monitoring event for 2016 was completed on March 15, 2016. The remaining quarterly monitoring events for 2016 are tentatively scheduled to be completed in September and December.

#### **Summary of Monthly Activities**

As discussed in previous Monthly and Quarterly Progress Reports, on October 24, 2014 the flare system operation was configured to operate on a 5-days on and 2-days off cycle timed on-off-on cycle. On January 15, 2015, the flare timer was re-configured to operate on a 4-days on and 3-days off cycle. The following is a summary of flare operation during this reporting period April 1, 2016 thru June 30, 2016:

- Between April 6, 2016 and April 10, 2016, the flare operated.
- Between April 12, 2016 and April 16, 2016, the flare operated.
- Between April 19, 2016 and April 23, 2016, the flare operated.
- Between April 26, 2016 and April 30, 2016, the flare operated.
- Between May 3, 2016 and May 7, 2016, the flare operated.
- Between May 18, 2016 and May 19, 2016, the flare operated.
- Between May 23, 2016 and May 26, 2016, the flare operated.
- Between June 2, 2016 and June 6, 2016, the flare operated.
- Between June 9, 2016 and June 13, 2016, the flare operated.
- Between June 16, 2016 and June 20, 2016, the flare operated.
- Between June 23, 2016 and June 27, 2016, the flare operated.
- Between June 30, 2016 and July 4, 2016, the flare operated.

On May 18, 2016, U.S. Ecology (formerly EQ Environmental) of Wrentham, Massachusetts was on-Site to remove 2,535 gallons of non-hazardous condensate from the condensate storage tank. A copy of the Non-hazardous manifest is attached.

The quarterly site visit was conducted on June 28, 2016. The visit included a complete round of monitoring for gas wells W-1 through W-18 and perimeter probes GP-1R, GP-2, GP-3, GP-4R, GP-5, GP-6 and GP-8.



A landfill inspection was conducted to identify any corrective measures for major landfill components that include the security system, cover integrity, stormwater management system, groundwater and gas monitoring wells, and collection system. The monitoring report and inspection log are enclosed.

A summary of pertinent information includes the following:

- The flare inlet flow rate, inlet methane content and combustion temperature measured 467 cubic feet per minute (cfm), 29.0% and 1789°F respectively.
- The methane levels in all compliance probes were within acceptable limits.
- Methane levels in the on-site buildings were 0%.

Please let me know if you have any questions or need additional information.

Sincerely,

WOODARD & CURRAN INC.

A handwritten signature in blue ink that reads "Alan Benevides".

Alan Benevides, P.E.  
Senior Vice President

AAB/ams

Enclosures: Quarterly Site Check  
Inspection Log  
Condensate Manifest

cc: Karen L. Douglas, Corning, Inc.  
Angela Knight, Corning, Inc.  
Roy Giarrusso, Giarrusso Norton Cooley & McGlone, PC  
Paul Kulpa, RIDEM  
David Moreira, Waste Management



**TABLE 2-1**  
**L&RR SUPERFUND SITE**  
**INSPECTION LOG**

Inspectors Names: S. Driscoll / J. Guerra

Date: 6/28/16

Time On Site 6:00 – 15:00

Weather: Overcast

Temperature: 60° F

Signature: 

CORRECTIVE MEASURES						
Feature	Trouble Signs	Status (Adequate or Inadequate)	Problem Location	Description of Problem	Action	Date
<b>1. Security System</b>						
a. Gate	Inoperative	Adequate				
b. Fence	Holes					
c. Locks	Inoperative					
d. Signs	Missing, Unreadable					
<b>2. Cover Integrity</b>						
a. Surface Features	Animal Burrows, Other Holes, Cracks	Adequate				
b. Slopes	Washouts and Sloughing					
c. Vegetation	Brushes/Tree Growth, Bare Spots					
d. Breakouts	Washouts and Discoloration					
<b>3. Stormwater Management System</b>						
a. Diversion Swales	Ponding Water, Filling and Sediment	Adequate				
b. Catch Basins	Filling with Sediment, Blocked by Debris					
c. Stilling Wells	Filling with Sediment					
d. Perimeter Channels	Filling with Sediment, Riprap Lining Disturbed					
e. Culverts	Blocked, Damaged, Riprap Outlets Disturbed					
f. Detention Basins	Filling with Sediment, Riprap Outlets Disturbed					
<b>4. Groundwater Monitoring Wells</b>						
a. Locking Cap	Broken, No Lock	Adequate				
b. Protective Casing	Cracked, Missing					
c. Concrete Collar	Cracked, Missing					
d. Local Erosion	Ponding, Water Channels					
<b>5. Landfill Gas Monitoring and Collection System</b>						
a. LFG Extraction Wells	Physical Damage to Casing, Wellhead, Sampling Port	Adequate				
b. LFG Migration Probes	Physical Damage to Casing					
c. Control Panel	Recording Paper and Pens Empty					
<b>6. Permanent Monuments</b>						
a. Bench Marks	Tilting/Heaving	Adequate				
b. Settlement Monuments	Tilting /Heaving					

COMMENTS: Refer to cover letter for the status of additional system upgrades and repairs scheduled for implementation.



EQ Northeast, Inc.  
185 Industrial Road  
Wrentham, MA 02093

Emergency Response #: (508) 384-6151  
Fax: (508) 384-6026

Work Order: 7857000  
Reference Code:  
Arrival Time: Date: 06/13/2016  
Prepared By: Wanda Tobey

## BILLING INFORMATION

Name: WOODARD & CURRAN INC  
Acct. #: 13134-99  
Phone: (866) 702-8371  
Addr: 35 NEW ENGLAND BUSINESS  
CENTERSUITE 180  
ANDOVER, MA 01810

Contact: Title: Phone: Mobile: ( ) -  
PO / Rel:

## GENERATOR INFORMATION

Name: FORMER L&RR LANDFILL  
EPA #: RID093212439 (ID: 73759)  
Phone: (401) 578-9976  
Addr: OFF OLD OXFORD RD.  
NORTH SMITHFIELD, RI 02876

Contact: Title: Phone: ( ) -  
Mobile: ( ) -

## TSDF INFORMATION

TSDF: TRADEBE T&R OF STOUGHTON, LLC  
Addr: 441 REAR CANTON STREET  
STOUGHTON, MA 02072

TSDF Contact: Maureen/Brian  
Contact Phone: (888) 276-0886

EPA #: MAD062179890  
Phone: (781) 297-3530  
Fax: (781) 344-3020

Manifest: \_\_\_\_\_

TSDF Contact: Maureen/Brian  
Contact Phone: (888) 276-0886

TSDF: TRADEBE T&R OF STOUGHTON, LLC  
Addr: 441 REAR CANTON STREET  
STOUGHTON, MA 02072

EPA #: MAD062179890  
Phone: (781) 297-3530  
Fax: (781) 344-3020

## HM DESCRIPTION

1. Non Hazardous Liquid Waste, Not DOT Not RCRA Regulated, None, None, None  
Approval Code: 1000121105 (74563) Waste Codes: NONE  
Hand, Instruct:

# OF CONT. TYPE QUANTITY UNIT

1 | 1 | TT X2535Lg  
2  
3

## EQUIPMENT ACKNOWLEDGMENT

Customer acknowledges that this equipment is suitable for the transportation, storage or other service to be provided.

Tractor # Tray 1712 Trailer # 408 Tanker # 408 Roll-Off Box #  w/ liner? X Spotted #  Picked up #  Vac Fee 0

5-18-16 X 5-18-16

Customer Signature

Date

Pickup	Date	Time	Explanation
Arrive at Shipper:	<u>5-18-16</u>	<u>7:40</u>	<u>Pump out tank &amp; tote for 20</u>
Start Loading:	<u>5-18-16</u>	<u>7:50</u>	<u>disposal!</u>
Finish Loading:	<u>5-18-16</u>	<u>8:45</u>	
Leave Site:	<u>5-18-16</u>	<u>9:00</u>	

SHIPMENT RECEIVED IN APPARENT GOOD ORDER (CONTENTS UNKNOWN)  
SUBJECT TO THE TERMS AND CONDITIONS OF THE UNIFORM STRAIGHT  
BILL OF LADING AND ANY GOVERNING CLASSIFICATIONS AND TARIFFS  
LAWFULLY ON FILE ON THE DATE OF SHIPMENT.

THIS IS TO CERTIFY THAT THE ABOVE NAMED MATERIALS ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED,  
MARKED AND LABELED AND ARE IN PROPER CONDITION FOR TRANSPORTATION ACCORDING TO THE  
APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION.

Driver Signature	Date	Customer Signature	Date
Delivery			
Arrive at TSDF:			
Start Unloading:			
Finish Unloading:			
Leave Site:			

Driver Signature	Date	Receiver Signature	Date

Please comment on the job so we can continue to provide better service:

Excellent  Satisfactory  Poor



August 22, 2017

Ms. Anna Krasko  
U.S. EPA Region 1  
Mail Code: OSRR07-1  
5 Post Office Square – Suite 100  
Boston, MA 02109-3912

Re: Landfill and Resource Recovery, Inc. Superfund Site  
Quarterly Progress Report – July 2016 thru September 2016

Dear Ms. Krasko:

On behalf of the L&RR Performing Settling Defendants (Group) and pursuant to the Settlement Agreement and Consent Decree, this quarterly report summarizes site activities completed between July 1, 2016 and September 30, 2016 by Woodard & Curran. As discussed in the previous reporting, the gas probe monitoring and wellfield tuning changed from monthly to quarterly frequency. Based on this change the first quarterly monitoring event for 2016 was completed on March 15, 2016. The remaining quarterly monitoring event for 2016 is tentatively scheduled to be completed in December.

### **Summary of Quarterly Activities**

As discussed in previous Monthly and Quarterly Progress Reports, on October 24, 2014 the flare system operation was configured to operate on a 5-days on and 2-days off cycle timed on-off-on cycle. On January 15, 2015, the flare timer was re-configured to operate on a 4-days on and 3-days off cycle. The following is a summary of flare operation during this reporting period July 1, 2016 thru September 30, 2016:

- Between June 30, 2016 and July 4, 2016 the flare operated.
- Between July 7, 2016 and July 11, 2016 the flare operated.
- Between July 14, 2016 and July 18, 2016 the flare operated.
- Between July 27, 2016 and July 31, 2016 the flare operated.
- Between August 3, 2016 and August 4, 2016 the flare operated.
- Between August 10, 2016 and August 13, 2016 the flare operated.
- Between August 16, 2016 and August 18, 2016 the flare operated.
- Between August 19, 2016 and August 21, 2016 the flare operated.
- Between August 31, 2016 and September 2, 2016 the flare operated.
- Between September 7, 2016 and September 9, 2016 the flare operated.
- Between September 13, 2016 and September 18, 2016 the flare operated.
- Between September 22, 2016 and September 26, 2016 the flare operated.
- Between September 29, 2016 and October 3, 2016 the flare operated.

During this reporting period, intermittent issues associated with the flare timer and the 4-day on / 3-day off cycle were encountered. As a result, the flare was shut-down for extended periods of time due to a



malfuncting timed on-off-on cycle programmer. The on-off-on cycle timer has been reprogrammed and the flare remains operational.

On July 20, 2016, U.S. Ecology (formerly EQ Environmental) of Wrentham, Massachusetts was on-Site to remove 1,800 gallons of non-hazardous condensate from the condensate storage tank. A copy of the Non-hazardous manifest is attached.

The quarterly site visit was conducted on September 30, 2016. The visit included a complete round of monitoring for gas wells W-1 through W-18 and perimeter probes GP-1, GP-1R, GP-2, GP-3, GP-4, GP-4R, GP-5, GP-6 and GP-8.

On July 15, 2016, the annual inlet flare sample was collected and submitted for laboratory analysis of volatile organic compounds (VOCs) using EPA Method TO-15. The sample was collected and submitted to Con-Test Laboratories of East Longmeadow, Massachusetts for analysis. Woodard & Curran will be submitting the results of this testing under a separate cover that will compare the 2016 results to the 2015 inlet flare sample results.

A landfill inspection was conducted to identify any corrective measures for major landfill components that include the security system, cover integrity, stormwater management system, groundwater and gas monitoring wells, and collection system. The monitoring report and inspection log are enclosed.

A summary of pertinent information includes the following:

- The flare inlet flow rate, inlet methane content and combustion temperature measured 455 cubic feet per minute (cfm), 33.2% and 1765°F respectively.
- The methane levels in all compliance probes were within acceptable limits.
- Methane levels in the on-site buildings were 0%.

Please let me know if you have any questions or need additional information.

Sincerely,

WOODARD & CURRAN INC.

A handwritten signature in blue ink that appears to read "Alan Benevides".

Alan Benevides, P.E.  
Senior Vice President

AAB/ams

Enclosures: Quarterly Site Check  
Inspection Log  
Condensate Manifest

cc: Karen L. Douglas, Corning, Inc.  
Angela Knight, Corning, Inc.  
Roy Giarrusso, Giarrusso Norton Cooley & McGlone, PC  
Paul Kulpa, RIDEM  
David Moreira, Waste Management

**Table 1**  
**Quarterly Site Check**  
 Landfill Resource Recovery Superfund Site  
 North Smithfield, Rhode Island

Date:	9/30/2016	Flare System Status:	ON (ON/OFF)	Blower A Runtime (HM-1):	95874 (Hours)	Propane Pressure:	43 (PSI)
Personnel:	S. Driscoll / J. Guerra	Flare Inlet Temperature:	1765 (Deg F)	Blower B Runtime (HM-2):	92135 (Hours)	Nitrogen Pressure:	100 (PSI)
Weather:	Overcast 50s	Flare Outlet Temperature:	1073 (Deg F)	Air Compressor Runtime (HM-3):	316959 (Hours)	Blower in Operation:	A (A/B)
		Flare Flow Rate:	455 (CFM)			Condensate #3 Pump:	253260 (cycles)
		Air Dryer Runtime:	6348 (Hours)				

Barometric Pressure (Start): 30.12 (In-Hg)      Barometric Pressure (End): 30.12 (In-Hg)      Condensate Tank Level: 39 (Inches)

WELL NO.	TIME	CH4 (%)	CO2 (%)	O2 (%)	BALANCE (%)	TEMP. ('F)	PRESSURE ("H2O)	VALVE POSITION (BEFORE)	VALVE POSITION (AFTER)	COMMENTS (OBSERVATIONS & ACTIONS TAKEN)
BUILDING	6:30	0.0	0.1	20.9	79.0	72	---	---	---	
<b>Before Wellfield Adjustments</b>										
BLOWER INLET	6:40	25.4	25.4	4.4	44.8	74	-12.0	---	---	
FLARE INLET	6:50	25.4	25.2	4.4	45.0	NA	3.0	---	---	
<b>After Wellfield Adjustments</b>										
BLOWER INLET	14:45	33.0	31.3	0.4	35.3	76	-13.0	---	---	
FLARE INLET	14:50	33.2	31.3	0.2	35.2	NA	3	---	---	
<b>Extraction Wells</b>										
W-1	9:35	8.1	6.6	17.5	67.7	58	0	100%	100%	
W-2	9:30	46.4	35.7	0.0	17.9	82	-3.4	100%	100%	
W-3	9:25	47.9	28.8	1.3	22.0	NA	-1.4	0%	0%	
W-4	9:20	1.4	3.6	18.8	76.2	54	-2.4	0%	0%	
W-5	9:15	0.0	0.1	21.3	78.5	46	-1.2	0%	0%	
W-6	9:10	4.5	29.6	1.8	64.0	54	+0.1	0%	0%	
W-7	9:00	0.0	0.0	21.2	78.8	44	0	75%	0%	
W-8	9:05	26.1	27.8	0.0	46.1	82	-6.2	100%	100%	
W-9	8:55	27.2	30.6	0.0	42.1	82	-8.0	100%	100%	
W-10	10:10	39.9	34.2	0.0	25.9	88	-6	100%	100%	
W-11	8:52	36.0	33.3	0.0	30.7	88	-5.8	100%	100%	
W-12	10:00	54.6	40.2	0.0	6.2	70	-2.4	100%	100%	
W-13	9:50	53.2	38.3	0.0	8.5	68	-6.4	100%	100%	
W-14	10:05	2.4	4.5	17.5	75.6	50	-2.2	0%	0%	
W-15	9:45	9.4	7.1	17.1	68.5	60	-1.0	100%	100%	
W-16	10:15	43.6	37.2	0.0	19.2	90	-3	100%	100%	
W-17	9:40	0.0	0.0	21.5	78.5	NA	0	50%	50%	
W-18	9:50	60.2	40.8	0.0	0.0	68	-3.6	100%	100%	
<b>Compliance Gas Probes</b>										
GP-1R	8:40	0.0	5.0	16.3	78.8	--	--	--	--	
GP-2	8:01	0.0	2.3	19.4	78.1	--	--	--	--	
GP-3	8:07	0.0	2.1	19.6	78.2	--	--	--	--	
GP-4R	8:25	0.0	3.1	17.9	79.0	--	--	--	--	
GP-5	8:45	0.0	5.9	15.2	78.9	--	--	--	--	
GP-6	7:42	0.0	3.6	18.1	78.2	--	--	--	--	
GP-8	7:52	0.0	0.1	21.1	78.8	--	--	--	--	
<b>Additional Comments</b>										
NM = Not Measured.										
Repaired damaged piping between W-15 and W-17. Aboveground piping was damaged during lawn mowing activities.										

**TABLE 2-1**  
**L&RR SUPERFUND SITE**  
**INSPECTION LOG**

Inspectors Names: S. Driscoll/J. Guerra

Date: 9/30/16

Weather: Overcast

Time On Site 6:30 – 15:00

Temperature: 50° F

Signature: \_\_\_\_\_

## **CORRECTIVE MEASURES**

CORRECTIVE MEASURES						
Feature	Trouble Signs	Status (Adequate or Inadequate)	Problem Location	Description of Problem	Action	Date
<b>1. Security System</b> a. Gate b. Fence c. Locks d. Signs	Inoperative Holes Inoperative Missing, Unreadable	Adequate	Gate	Bent	None	
<b>2. Cover Integrity</b> a. Surface Features b. Slopes c. Vegetation d. Breakouts	Animal Burrows, Other Holes, Cracks Washouts and Sloughing Brushes/Tree Growth, Bare Spots Washouts and Discoloration	Adequate			Landfill cap mowed August 30, 2016 thru September 2, 2016	
<b>3. Stormwater Management System</b> a. Diversion Swales b. Catch Basins c. Stilling Wells d. Perimeter Channels e. Culverts f. Detention Basins	Ponding Water, Filling and Sediment Filling with Sediment, Blocked by Debris Filling with Sediment Filling with Sediment, Riprap Lining Disturbed Blocked, Damaged, Riprap Outlets Disturbed Filling with Sediment, Riprap Outlets Disturbed	Adequate			None	
<b>4. Groundwater Monitoring Wells</b> a. Locking Cap b. Protective Casing c. Concrete Collar d. Local Erosion	Broken, No Lock Cracked, Missing Cracked, Missing Ponding, Water Channels	Adequate			None	
<b>5. Landfill Gas Monitoring and Collection System</b> a. LFG Extraction Wells b. LFG Migration Probes c. Control Panel	Physical Damage to Casing, Wellhead, Sampling Port Physical Damage to Casing Recording Paper and Pens Empty	Adequate			None	
<b>6. Permanent Monuments</b> a. Bench Marks b. Settlement Monuments	Tilting/Heaving Tilting /Heaving	Adequate			None	



EQ Northeast, Inc.  
185 Industrial Road  
Wrentham, MA 02093

Emergency  
Response #:

Phone: (508) 384-6151  
Fax: (508) 384-6028

Work Order: 8177400

Reference Code:  
Arrival Time:  
Date: 07/15/2016  
Prepared By: Wanda Tobey

BILLING INFORMATION

Name: WOODARD & CURRAN INC  
Acct. #: 13134-99  
Phone: (888) 702-6371  
Addr: 35 NEW ENGLAND BUSINESS  
CENTERSUITE 180  
ANDOVER, MA 01810

Contact:  
Title:  
Phone:  
Mobile: ( ) -  
PO / Rel:

GENERATOR INFORMATION

Name: FORMER L&RR LANDFILL  
EPA #: RID093212439 (ID: 73759)  
Phone: (401) 578-9875  
Addr: OFF OLD OXFORD RD.  
NORTH SMITHFIELD, RI 02876

Contact:  
Title:  
Phone: ( ) -  
Mobile: ( ) -

TSDF INFORMATION

TSDF: TRADEBE T&R OF STOUGHTON, LLC  
Addr: 441 REAR CANTON STREET  
STOUGHTON, MA 02072

TSDF Contact: Maureen/Brian  
Contact Phone: (888) 276-0886

EPA #: MAD062179890  
Phone: (781) 287-3530  
Fax: (781) 344-3020

Manifest: 8177400-2604K

TSDF Contact: Maureen/Brian  
Contact Phone: (888) 276-0886

TSDF: TRADEBE T&R OF STOUGHTON, LLC  
Addr: 441 REAR CANTON STREET  
STOUGHTON, MA 02072

EPA #: MAD062179890  
Phone: (781) 287-3530  
Fax: (781) 344-3020

HM DESCRIPTION

1. Non Hazardous Liquid Waste, Not DOT Not RCRA Regulated, None, None, None  
Approval Code: 1000121105 (74563) Waste Codes: NONE  
Hand. Instruc:

# OF CONT. TYPE QUANTITY UNIT  
001 | TT | 1800 | G

EQUIPMENT ACKNOWLEDGMENT

Customer acknowledges that this equipment is suitable for the transportation, storage or other service to be provided.

Tractor # \_\_\_\_\_ Trailer # 48 Tanker # \_\_\_\_\_ Roll-Off Box # \_\_\_\_\_ w/ liner? \_\_\_\_\_ Spotted # \_\_\_\_\_ Picked up # \_\_\_\_\_ Vac Fee \_\_\_\_\_

Driver Signature	Date	Customer Signature	Date
Pickup	Date	Time	Explanation
<u>RLS</u>	<u>7/20</u>	<u>800</u>	<u>Hup out wastewater tank</u>
Arrive at Shipper:			
Start Loading:			
Finish Loading:			
Leave Site:			

SHIPMENT RECEIVED IN APPARENT GOOD ORDER (CONTENTS UNKNOWN)  
SUBJECT TO THE TERMS AND CONDITIONS OF THE UNIFORM STRAIGHT  
BILL OF LADING AND ANY GOV'TNING CLASSIFICATIONS AND TARIFFS  
LAWFULLY ON FILE OR IN EFFECT AT TIME OF SHIPMENT.

THIS IS TO CERTIFY THAT THE ABOVE NAMED MATERIALS ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED,  
MARKED AND LABELED AND ARE IN PROPER CONDITION FOR TRANSPORTATION ACCORDING TO THE  
APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION.

Driver Signature	Date	Customer Signature	Date
Delivery	Date	Time	Explanation
Arrive at TSDF:			
Start Unloading:			
Finish Unloading:			
Leave Site:			

Driver Signature	Date	Receiver Signature	Date
------------------	------	--------------------	------

Please comment on the job so we can continue to provide better service:

Excellent  Satisfactory  Poor



August 22, 2017

Ms. Anna Krasko  
U.S. EPA Region 1  
Mail Code: OSRR07-1  
5 Post Office Square – Suite 100  
Boston, MA 02109-3912

Re: Landfill and Resource Recovery, Inc. Superfund Site  
Quarterly Progress Report – October 2016 thru December 2016

Dear Ms. Krasko:

On behalf of the L&RR Performing Settling Defendants (Group) and pursuant to the Settlement Agreement and Consent Decree, this quarterly report summarizes site activities completed between October 1, 2016 and December 31, 2016 by Woodard & Curran. As discussed in previous reports, the gas probe monitoring and wellfield tuning changed from monthly to quarterly frequency. Based on this change quarterly monitoring in 2016 was completed in March, June, September and December. The final quarterly monitoring event for 2016 was completed on December 19, 2016. Quarterly monitoring events for 2017 are tentatively scheduled to be completed in March, June, September, and December.

### **Summary of Quarterly Activities**

As discussed in previous Monthly and Quarterly Progress Reports, on October 24, 2014 the flare system operation was configured to operate on a 5-days on and 2-days off cycle timed on-off-on cycle. Between January 15, 2015 and October 26, 2016 the flare was programmed to operate on a 4-days on and 3-days off cycle. On October 26, 2016, the flare timer was re-configured to operate on a 3-days on and 4-days off cycle. The following is a summary of flare operation during this reporting period October 1, 2016 thru December 31, 2016:

- Between October 6, 2016 and October 10, 2016 the flare operated.
- Between October 17, 2016 and October 21, 2016 the flare operated.
- Between October 24, 2016 and October 27, 2016 the flare operated.
- Between November 17, 2016 and November 20, 2016 the flare operated.
- Between November 27, 2016 and November 30, 2016 the flare operated.
- Between December 4, 2016 and December 7, 2016 the flare operated.
- Between December 11, 2016 and December 14, 2016 the flare operated.
- Between December 22, 2016 and December 25, 2016 the flare operated.
- Between December 29, 2016 and January 1, 2017 the flare operated.

During this reporting period the flare was shutdown for one extended period of time (approximately 17 days) due to a problem with the condensate knock-out discharge pump. The pump was repaired and the system was restarted, and the flare has been operating as programmed.

On October 26, 2016, U.S. Ecology (formerly EQ Environmental) of Wrentham, Massachusetts was on-Site to remove 2,500 gallons of non-hazardous condensate from the condensate storage tank. A copy of the Non-hazardous manifest is attached.



The quarterly site visit was conducted on December 19, 2016. The visit included a complete round of monitoring for gas at wells W-1 through W-18 and perimeter probes GP-1, GP-1R, GP-2, GP-3, GP-4, GP-4R, GP-5, GP-6 and GP-8. The Quarterly Site Check is presented in Table 1.

A landfill inspection was conducted to identify any corrective measures for major landfill components that include the security system, cover integrity, stormwater management system, groundwater and gas monitoring wells, and collection system. The Quarterly Landfill Inspection is presented in Table 2.

A summary of pertinent information includes the following:

- The flare system was off during this quarterly inspection. Attempts were made to restart the flare for the inspection but low gas levels prevented the flare from igniting.
- The methane levels in all compliance probes were within acceptable limits.
- Methane levels in the on-site buildings were 0%.

Please let me know if you have any questions or need additional information.

Sincerely,

WOODARD & CURRAN INC.

A handwritten signature in blue ink that reads "Alan Benevides".

Alan Benevides, P.E.  
Senior Vice President

aab/ams

Enclosures: Quarterly Site Check  
Quarterly Site Inspection  
Condensate Manifest

cc: Karen L. Douglas, Corning, Inc.  
Angela Knight, Corning, Inc.  
Roy Giarrusso, Giarrusso Norton Cooley & McGlone, PC  
Paul Kulpa, RIDEM  
David Moreira, Waste Management

**Table 1**  
**Quarterly Site Check**  
 Landfill and Resource Recovery, Inc Superfund Site  
 North Smithfield, Rhode Island

Date:	12/19/2016	Flare System Status:	OFF (ON/OFF)	Blower A Runtime (HM-1):	102266 (Hours)	Propane Pressure:	45 (PSI)
Personnel:	Driscoll/Rose	Flare Inlet Temperature:	NM (Deg F)	Blower B Runtime (HM-2):	92135 (Hours)	Nitrogen Pressure:	100 (PSI)
Weather:	Sunny 26	Flare Outlet Temperature:	NM (Deg F)	Air Compressor Runtime (HM-3):	335758 (Hours)	Blower in Operation:	A (A/B)
		Flare Flow Rate:	0 (CFM)			Condensate #3 Pump:	263965 (cycles)
		Air Dryer Runtime:	NA (Hours)				

Barometric Pressure (Start): 30.26 (In-Hg)      Barometric Pressure (End): 30.26 (In-Hg)      Condensate Tank Level: 40 (Inches)

WELL NO.	TIME	CH4 (%)	CO2 (%)	O2 (%)	Balance (%)	TEMP. (°F)	PRESSURE ("H2O)	VALVE POSITION (BEFORE)	VALVE POSITION (AFTER)	COMMENTS (OBSERVATIONS & ACTIONS TAKEN)
BUILDING	7:00	0.0	0.0	21.5	78.3	64	---	---	---	
<b>Before Wellfield Adjustments</b>										
BLOWER INLET	NM	NM	NM	NM	NM	NM	NM	---	---	
FLARE INLET	NM	NM	NM	NM	NM	NM	NM	---	---	
<b>After Wellfield Adjustments</b>										
BLOWER INLET	NM	NM	NM	NM	NM	NM	NM	---	---	
FLARE INLET	NM	NM	NM	NM	NM	NM	NM	---	---	
<b>Extraction Wells</b>										
W-1	14:00	0.1	0.1	24.9	74.9	36	NM	100%	100%	
W-2	13:45	0.1	0.1	25.0	74.8	31	NM	100%	100%	
W-3	13:30	28.4	16.8	12.6	42.2	NA	NM	0%	0%	
W-4	13:15	5.0	7.0	20.8	67.2	24	NM	0%	0%	
W-5	13:00	0.1	0.1	24.7	75.1	30	NM	0%	0%	
W-6	12:00	4.5	19.5	10.6	65.6	30	NM	0%	0%	
W-7	11:30	35.1	25.8	10.0	29.2	20	NM	0%	0%	
W-8	11:45	8.9	9.6	16.5	65.0	40	NM	100%	100%	
W-9	11:15	17.2	14.4	14.1	54.3	52	NM	100%	100%	
W-10	11:00	4.8	8.2	14.4	72.6	49	NM	100%	100%	
W-11	10:45	0.8	0.9	22.1	76.2	58	NM	100%	100%	
W-12	10:30	33.7	26.8	7.5	32.0	42	NM	100%	100%	
W-13	15:15	33.4	25.0	6.6	36.0	55	NM	100%	100%	
W-14	15:30	4.5	3.9	17.2	74.6	25	NM	0%	0%	
W-15	14:15	0.2	0.1	22.2	77.5	22	NM	100%	100%	
W-16	14:30	7.4	11.1	10.9	70.6	30	NM	100%	100%	
W-17	14:45	2.3	15.7	7.5	74.6	NA	NM	50%	50%	
W-18	15:00	9.0	6.0	17.1	67.9	29	NM	100%	100%	
<b>Compliance Gas Probes</b>										
GP-1R	7:30	0.0	8.7	13.1	78.2	--	--	--	--	
GP-2	9:30	0.0	1.4	21.5	77.1	--	--	--	--	
GP-3	9:50	0.0	1.2	21.4	77.4	--	--	--	--	
GP-4R	7:45	0.0	2.3	19.1	78.6	--	--	--	--	
GP-5	8:00	0.0	3.0	19.8	77.2	--	--	--	--	
GP-6	8:45	0.0	1.8	22.0	76.2	--	--	--	--	
GP-8	9:05	0.0	0.1	22.7	77.2	--	--	--	--	
<b>Additional Comments</b>										
NM = Not Measured.										
Attempted to restart flare while on Site but flare would not remain lit due to low methane gas levels.										
Condensate tank level sensor replaced on December 22, 2016										

**TABLE 2**  
**Quarterly Site Inspection**

Inspectors Names: S. Driscoll/G. Rose

Date: 12/19/16

Weather: Partly Cloudy

Time On Site 7:00 – 16:00

Temperature: 28° F

Signature: 

## **CORRECTIVE MEASURES**

CORRECTIVE MEASURES						
Feature	Trouble Signs	Status (Adequate or Inadequate)	Problem Location	Description of Problem	Action	Date
<b>1. Security System</b> a. Gate b. Fence c. Locks d. Signs	Inoperative Holes Inoperative Missing, Unreadable	Adequate	Gate	Bent	None	
<b>2. Cover Integrity</b> a. Surface Features b. Slopes c. Vegetation d. Breakouts	Animal Burrows, Other Holes, Cracks Washouts and Sloughing Brushes/Tree Growth, Bare Spots Washouts and Discoloration	Adequate			None	
<b>3. Stormwater Management System</b> a. Diversion Swales b. Catch Basins c. Stilling Wells d. Perimeter Channels e. Culverts f. Detention Basins	Ponding Water, Filling and Sediment Filling with Sediment, Blocked by Debris Filling with Sediment Filling with Sediment, Riprap Lining Disturbed Blocked, Damaged, Riprap Outlets Disturbed Filling with Sediment, Riprap Outlets Disturbed	Adequate			None	
<b>4. Groundwater Monitoring Wells</b> a. Locking Cap b. Protective Casing c. Concrete Collar d. Local Erosion	Broken, No Lock Cracked, Missing Cracked, Missing Ponding, Water Channels	Adequate			None	
<b>5. Landfill Gas Monitoring and Collection System</b> a. LFG Extraction Wells b. LFG Migration Probes c. Control Panel	Physical Damage to Casing, Wellhead, Sampling Port Physical Damage to Casing Recording Paper and Pens Empty	Adequate			None	
<b>6. Permanent Monuments</b> a. Bench Marks b. Settlement Monuments	Tilting/Heaving Tilting /Heaving	Adequate			None	

EQ Northeast, Inc.  
186 Industrial Road  
Wrentham, MA 02093



Emergency  
Response #: 50-325344  
Phone: (508) 384-6151  
Fax: (508) 384-6026

90235755

Work Order: 8470900  
Reference Code:  
Arrival Time:  
Date: 10/19/2016  
Prepared By: Megan Hinton

## BILLING INFORMATION

Name: WOODARD & CURRAN INC  
Acct. #: 13134-99  
Phone: (866) 702-6371  
Addr: 35 NEW ENGLAND BUSINESS  
CENTERSUITE 180  
ANDOVER, MA 01810

Contact:  
Title:  
Phone:  
Mobile: ( ) -  
PO / Rel:

## GENERATOR INFORMATION

Name: FORMER L&R LANDFILL  
EPA #: RID093212439 (ID: 73759)  
Phone: (401) 578-8976  
Addr: OFF OLD OXFORD RD.  
NORTH SMITHFIELD, RI 02876

Contact:  
Title:  
Phone: ( ) -  
Mobile: ( ) -

## TSDF INFORMATION

TSDF: TRADEBE T&R OF STOUGHTON, LLC  
Addr: 441 REAR CANTON STREET  
STOUGHTON, MA 02072

TSDF Contact: Maureen/Brian  
Contact Phone: (800) 276-0086

GPA #: MAD062179890  
Phone: (781) 297-3530  
Fax: (781) 344-3020

Manifest:  
TSDF Contact: Maureen/Brian  
Contact Phone: (866) 276-0086

TSDF: TRADEBE T&R OF STOUGHTON, LLC  
Addr: 441 REAR CANTON STREET  
STOUGHTON, MA 02072

EPA #: MAD062179800  
Phone: (781) 297-3530  
Fax: (781) 344-3020

## HM DESCRIPTION

1. Non Hazardous Liquid Waste, Not DOT Not RCRA Regulated, None, None, None  
Approval Code: 1000121105 (74563) Waste Codes: NONE  
Hand. Instruc:

# OF CONT. TYPE QUANTITY UNIT  
1 | 1 | T | 2500 G

## EQUIPMENT ACKNOWLEDGEMENT

Customer acknowledges that this equipment is suitable for the transportation, storage or other service to be provided.  
Tractor # \_\_\_\_\_ Trailer # \_\_\_\_\_ Tanker # 408 Roll-Off Box # \_\_\_\_\_ w/liner? \_\_\_\_\_ Spotted # \_\_\_\_\_ Picked up # \_\_\_\_\_ Vac Fee \_\_\_\_\_

Driver Signature	Date	Customer Signature	Date
Pickup	Date	Explanation	
Arrive at Shipper:	<u>10/26</u>	<u>12:30</u>	<u>Setups; pump holding tank</u>
Start Loading:	/		<u>pump 2. 250G Total; sp. tank</u>
Finish Loading:	<u>1</u>	<u>14:00</u>	
Leave Site:			
SSVNGT	<u>10/26/16</u>	<u>JM</u>	<u>10/26/16</u>
Driver Signature	Date	Customer Signature	Date
Delivery	Date	Explanation	
Arrive at TSDF:	<u>10/26</u>	<u>15:15</u>	<u>Check in; sample; offload; x/tank</u>
Start Unloading:	/	<u>16:15</u>	
Finish Unloading:			
Leave Site:			
SSVNGT			
Driver Signature	Date	Receiver Signature	Date

Please comment on the job so we can continue to provide better service:

Excellent  Satisfactory  Poor



August 22, 2017

Ms. Anna Krasko  
U.S. EPA Region 1  
Mail Code: OSRR07-1  
5 Post Office Square – Suite 100  
Boston, MA 02109-3912

Re: Landfill and Resource Recovery, Inc. Superfund Site  
Quarterly Progress Report – January 2017 thru March 2017

Dear Ms. Krasko:

On behalf of the L&RR Performing Settling Defendants (Group) and pursuant to the Settlement Agreement and Consent Decree, this quarterly report summarizes site activities completed between January 1, 2017 and March 31, 2017 by Woodard & Curran. As discussed in previous reports, the gas probe monitoring and wellfield tuning changed from monthly to quarterly frequency during the fourth quarter of 2015. Based on this information the first quarterly monitoring event in 2017 was completed on March 7, 2017. Quarterly monitoring events for the remainder of 2017 are tentatively scheduled to be completed in June, September, and December.

### **Summary of Quarterly Activities**

As discussed in previous Monthly and Quarterly Progress Reports, on October 24, 2014 the flare system operation was configured to operate on a 5-days on and 2-days off cycle timed on-off-on cycle. The flare was programmed to operate on a 5-days on and 2-days off cycle through January 15, 2015. Between January 15, 2015 and October 26, 2016 the flare was programmed to operate on a 4-days on and 3-days off cycle. On October 26, 2016, the flare timer was re-configured to operate on a 3-days on and 4-days off cycle. The following is a summary of flare operation during this reporting period January 1, 2017 thru March 31, 2017:

- Between December 29, 2016 and January 1, 2017, the flare operated.
- Between January 2, 2017 and January 6, 2017, the flare operated.
- Between January 23, 2017 and January 26, 2017, the flare operated.
- Between January 30, 2017 and February 2, 2017, the flare operated.
- Between February 6, 2017 and February 9, 2017, the flared operated.
- Between February 23, 2017 and February 25, 2017, the flare operated.
- Between February 26, 2017 and February 28, 2017, the flare operated.
- Between March 3, 2017 and March 7, 2017, the flare operated.
- Between March 11, 2017 and March 14, 2017, the flare operated.
- Between March 18, 2017 and March 21, 2017, the flare operated.
- Between March 25, 2017 and March 28, 2017, the flare operated.

During this reporting period the flare was shut down for two extended periods of time approximately 17 days and 14 days. The first extended shutdown occurred between January 6, 2017 and January 23, 2017 due to a problem with the air compressor air water separator. The air water separator was replaced and the flare was restarted. The second extended shutdown occurred between February 9, 2017 and February 23, 2017



due to a combination of a faulty air compressor pressure switch and a frozen airline. The pressure switch was replaced and the frozen line was cleared and the flare was restarted.

On January 6, 2017 and March 7, 2017, U.S. Ecology (formerly EQ Environmental) of Wrentham, Massachusetts was on-Site to remove 2,000 gallons and 2,322 gallons of non-hazardous condensate from the condensate storage tanks respectively. Copies of the Non-hazardous manifests are attached.

The quarterly site visit was conducted on March 7, 2017. The visit included a complete round of monitoring for gas at wells W-1 through W-18 and perimeter probes GP-1, GP-1R, GP-2, GP-3, GP-4, GP-4R, GP-5, GP-6 and GP-8. The Quarterly Site Check is presented in Table 1.

A landfill inspection was conducted to identify any corrective measures for major landfill components that include the security system, cover integrity, stormwater management system, groundwater and gas monitoring wells, and collection system. The Quarterly Landfill Inspection is presented in Table 2.

A summary of pertinent information includes the following:

- The flare inlet flow rate, inlet methane content and combustion temperature measured 485 cubic feet per minute (cfm), 37.8% and 1821°F respectively.
- The methane levels in all compliance probes were within acceptable limits.
- Methane levels in the on-site buildings were 0%.

Please let me know if you have any questions or need additional information.

Sincerely,

WOODARD & CURRAN INC.

A handwritten signature in blue ink that reads "Alan Benevides".

Alan Benevides, P.E.  
Senior Vice President

AAB/ams

Enclosures: Quarterly Site Check  
Quarterly Site Inspection  
Condensate Manifests

cc: Karen L. Douglas, Corning, Inc.  
Angela Knight, Corning, Inc.  
Roy Giarrusso, Giarrusso Norton Cooley & McGlone, PC  
Paul Kulpa, RIDEM  
David Moreira, Waste Management

**Table 1**  
**Quarterly Site Check**  
 Landfill and Resource Recovery, Inc Superfund Site  
 North Smithfield, Rhode Island

Date:	3/7/2017	Flare System Status:	ON	(ON/OFF)	Blower A Runtime (HM-1):	107914	(Hours)	Propane Pressure:	56	(PSI)
Personnel:	S. Driscoll	Flare Inlet Temperature:	1821	(Deg F)	Blower B Runtime (HM-2):	92135	(Hours)	Nitrogen Pressure:	100	(PSI)
Weather:	37° Cloudy rain showers	Flare Outlet Temperature:	1110	(Deg F)	Air Compressor Runtime (HM-3):	349834	(Hours)	Blower in Operation:	B	(A/B)
		Flare Flow Rate:	485	(CFM)				Condensate #3 Pump:	263965	(cycles)
		Air Dryer Runtime:	7230	(Hours)						

Barometric Pressure (Start): 30.13 (In-Hg) Barometric Pressure (End): 29.98 (In-Hg) Condensate Tank Level: 68 (Inches)

WELL NO.	TIME	CH4 (%)	CO2 (%)	O2 (%)	Balance (%)	TEMP. (°F)	PRESSURE ("H2O)	VALVE POSITION (BEFORE)	VALVE POSITION (AFTER)	COMMENTS (OBSERVATIONS & ACTIONS TAKEN)
BUILDING	7:45	0.0	0.0	19.6	80.4	50	---	---	---	
<b>Before Wellfield Adjustments</b>										
BLOWER INLET	8:00	37.8	32.6	1.3	28.3	56	-15.5	---	---	
FLARE INLET	8:05	38.1	33.2	1.1	27.6	NA	2.6	---	---	
<b>After Wellfield Adjustments</b>										
BLOWER INLET	13:00	37.9	33.0	0.9	28.2	58	-15.0	---	---	
FLARE INLET	13:05	37.8	32.8	1.0	28.4	NA	3	---	---	
<b>Extraction Wells</b>										
W-1	11:40	55.5	37.3	1.8	5.4	50	-1.0	100%	50%	Closed to 50%. Inconsistent gas generation in this well. Drained line of ice and water.
W-2	11:23	52.3	36.6	0.5	10.6	80	-6.4	100%	100%	
W-3	11:10	8.7	5.8	16.7	68.8	NA	-3.2	0%	0%	
W-4	10:57	0.3	0.7	19.7	79.3	42	-4.8	0%	0%	
W-5	10:43	0.0	0.1	20.1	79.8	38	-3.0	0%	0%	
W-6	10:31	6.6	33.0	0.8	59.6	44	0	0%	0%	
W-7	10:07	32.0	24.8	9.2	33.9	32	-5.6	0%	0%	
W-8	10:18	31.1	27.0	2.7	39.0	76	-9.5	100%	100%	
W-9	8:55	36.0	33.6	0.4	29.9	80	-11.0	100%	100%	
W-10	8:38	49.7	36.6	0.3	13.3	80	-9.0	100%	100%	Flex pipe from well head to main extraction line full of water. Drained and removed dip where water was collecting.
W-11	8:24	37.8	34.6	0.3	27.3	68	-9.2	100%	100%	
W-12	12:35	0.7	4.5	15.7	79.1	38	0	100%	100%	
W-13	12:22	23.9	15.7	12.4	48.0	38	-2.0	100%	100%	Line between W-13 & W-18 full of water. Condensate #3 not operating due to damaged air line at flare building.
W-14	12:48	36.3	36.3	0.3	27.1	74	-6.8	0%	0%	
W-15	12:00	0.0	0.1	20.1	79.8	48	-1.2	100%	100%	
W-16	12:18	56.7	38.5	0.2	4.5	84	-7.0	100%	100%	
W-17	12:00	0.0	3.3	18.0	78.7	NA	-3.8	50%	25%	Closed to 25%
W-18	12:11	0.0	0.0	20.2	79.8	48	-1.0	100%	50%	Closed to 50% due to lack of gas.
<b>Compliance Gas Probes</b>										
GP-1R	15:58	0.3	20.7	0.4	78.6	--	--	--	--	Well lock missing. Well vandalized 1/4-inch tubing jammed down well need to fish out.
GP-2	14:50	0.0	2.2	18.3	79.5	--	--	--	--	
GP-3	14:34	0.0	1.6	18.5	79.9	--	--	--	--	
GP-4R	13:47	0.0	5.9	12.7	81.4	--	--	--	--	
GP-5	13:30	0.0	0.0	19.9	80.1	--	--	--	--	
GP-6	14:18	0.0	1.8	18.8	79.4	--	--	--	--	
GP-8	15:08	0.0	0.0	20.0	80.0	--	--	--	--	
<b>Additional Comments</b>										
NM = Not Measured.										
Condensate tank pumped out by US Ecology = 2,322 gallons removed										
Replaced locks on gas probes.										
Recovered 1/4-inch tubing stuck in gas probe GP-1R.										

**TABLE 2**  
**Quarterly Site Inspection**

Inspectors Names: S. Driscoll

Date: 3/7/17

Weather: Cloudy with rain showers

Time On Site: 7:30 – 16:00

Temperature: 37° F

**Signature:** \_\_\_\_\_



CORRECTIVE MEASURES						
Feature	Trouble Signs	Status (Adequate or Inadequate)	Problem Location	Description of Problem	Action	Date
<b>1. Security System</b> a. Gate b. Fence c. Locks d. Signs	Inoperative Holes Inoperative Missing, Unreadable	Adequate	Gate	Bent	Replaced vehicle gate locks	3/7/17
<b>2. Cover Integrity</b> a. Surface Features b. Slopes c. Vegetation d. Breakouts	Animal Burrows, Other Holes, Cracks Washouts and Sloughing Brushes/Tree Growth, Bare Spots Washouts and Discoloration	Adequate			None	
<b>3. Stormwater Management System</b> a. Diversion Swales b. Catch Basins c. Stilling Wells d. Perimeter Channels e. Culverts f. Detention Basins	Ponding Water, Filling and Sediment Filling with Sediment, Blocked by Debris Filling with Sediment Filling with Sediment, Riprap Lining Disturbed Blocked, Damaged, Riprap Outlets Disturbed Filling with Sediment, Riprap Outlets Disturbed	Adequate			None	
<b>4. Groundwater Monitoring Wells</b> a. Locking Cap b. Protective Casing c. Concrete Collar d. Local Erosion	Broken, No Lock Cracked, Missing Cracked, Missing Ponding, Water Channels	Adequate			Replaced monitoring well locks	3/7/17
<b>5. Landfill Gas Monitoring and Collection System</b> a. LFG Extraction Wells b. LFG Migration Probes c. Control Panel	Physical Damage to Casing, Wellhead, Sampling Port Physical Damage to Casing Recording Paper and Pens Empty	Adequate	GP-1R	Well vandalized missing well lock tubing jammed down well	Fished out tubing. Replaced lock	3/7/17
<b>6. Permanent Monuments</b> a. Bench Marks b. Settlement Monuments	Tilting/Heaving Tilting /Heaving	Adequate			None	



# E Q NORTHEAST INC.

185 INDUSTRIAL ROAD  
PO BOX 617  
WRENTHAM, MA 02093  
TEL. 508-384-6151 FAX 508-384-6028

3510 FAIRFIELD ROAD  
PO BOX 19788  
BALTIMORE, MD 21225  
TEL. 410-355-7000 FAX 410-355-7769

43 1/2 COLONY STREET  
SUITE 4, PO BOX 883  
MERIDEN, CT 06451  
TEL 203-630-2472 FAX 203-630-2530

WORK ORDER #

EPA I.D. # MAD084814136 — D.O.T. # 157372

**BILL TO:**
**JOB #**

Wendard and Curran  
Account 1813-99  
35 New England Business Ct  
Andover ma

**EMERGENCY RESPONSE TEL. #**

MANIFEST/DOCUMENT NUMBER

**ORIGIN**

Former L&R Landfill  
off Old Oxford Rd  
North Smithfield RI  
RID093212439 (I 7375)

401-575-9776

PICK-UP DATE &amp; TIME PURCHASE ORDER #

**DESTINATION**

Tradebe Tr.R. of Stoughton  
441 Rear Carlton St  
Stoughton Ma 02072  
Mass-on-Brian  
888-376-0886

FACILITY W/O # OFF LOAD DATE/TIME

# UNITS	TYPE	HM	DESCRIPTION OF ARTICLES	QUANTITY	PER UNIT	AMOUNT
001	TT		Non Hazardous Liquid waste, not DOT not RCRA regulated, none none none Approval code 1000121105 (74563)	2000	G	

**EQUIPMENT ACKNOWLEDGEMENT**

CUSTOMER ACKNOWLEDGES THAT: TANKER # 408 TRAILER # ROLL-OFF CONTAINER # W/LINER?

IS SUITABLE FOR THE TRANSPORTATION, STORAGE OR SERVICE TO BE PROVIDED.

DRIVER'S SIG.

DATE:

CUSTOMER'S SIG.

DATE:

PICK UP	DATE	TIME	EXPLANATION OF LOADING TIME
ARRIVE AT SHIPPER	1-6	11:45	
START LOADING			Pump from U.S.T
FINISH LOADING			
LEAVE SITE		1:00	

SHIPMENT RECEIVED IN APPARENT GOOD ORDER (CONTENTS AND CONDITION OF CONTENTS UNKNOWN)  
SUBJECT TO THE TERMS AND CONDITIONS OF THE UNIFORM STRAIGHT BILL OF LADING AND ANY  
GOVERNING CLASSIFICATIONS AND TARIFFS LAWFULLY ON FILE ON THE DATE OF SHIPMENT

THIS IS TO CERTIFY THAT THE ABOVE NAMED MATERIALS ARE PROPERLY CLASSIFIED, DESCRIBED,  
PACKAGED, MARKED AND LABELED AND ARE IN PROPER CONDITION FOR TRANSPORTATION  
ACCORDING TO THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION

 DRIVER: Diana Zeller

 DATE: 1-6-17

 SHIPPER: [Signature]

 DATE: 1-6-17

DELIVERY	DATE	TIME	EXPLANATION OF UNLOADING TIME
ARRIVE AT SITE			
BEGIN UNLOADING			
FINISH UNLOADING			
LEAVE SITE			

DRIVER: DATE: RECEIVER: DATE:

ADDITIONAL INSTRUCTIONS OR COMMENTS

START TRIP (DATE & TIME)	FINISH TRIP (DATE & TIME)
--------------------------	---------------------------



EQI Northeast, Inc.  
185 Industrial Road  
Wrentham, MA 02093

Emergency  
Response #:

Phone: (508) 384-6151  
Fax: (508) 384-6026

Work Order: 8760500

Reference Code:

Arrival Time:

Date: 03/02/2017

Prepared By: Megan Hinton

BILLING INFORMATION

Name: WOODARD & CURRAN INC  
Acct. #: 13134-98  
Phone: (866) 702-8371  
Addr: 36 NEW ENGLAND BUSINESS CNTR S180  
ANDOVER, MA 01810

Contact: Title:  
Phone:  
Mobile: ( ) -  
PO / Ref:

GENERATOR INFORMATION

Name: FORMER U&RR LANDFILL  
EPA #: RID099212439 (ID: 73759)  
Phone: (401) 578-9976  
Addr: OFF OLD OXFORD RD.  
NORTH SMITHFIELD, RI 02876

TSDF: TRADEBE T&R OF STOUGHTON, LLC  
Addr: 441 REAR CANTON STREET  
STOUGHTON, MA 02072

TSDF Contact: Maureen/Brian  
Contact Phone: (888) 276-0886

EPA #: MAD062179890  
Phone: (781) 297-3530  
Fax: (781) 344-3020

Manifest:

TSDF Contact: Maureen/Brian  
Contact Phone: (888) 276-0886

TSDF: TRADEBE T&R OF STOUGHTON, LLC  
Addr: 441 REAR CANTON STREET  
STOUGHTON, MA 02072

EPA #: MAD062179890  
Phone: (781) 297-3530  
Fax: (781) 344-3020

HM DESCRIPTION

1. Non Hazardous Liquid Waste. Not DOT or RCRA Regulated. None, None, None  
Approval Code: 1000121105 (74563) Waste Codes: NONE  
Hand. Instruct:

\* OF CONT. TYPE QUANTITY UNIT

101 TT 2322 G

Supplies	Qty	Bill Unit	Qty	Bill Unit	Qty	Description

Supplies	Qty	Bill Unit	Qty	Bill Unit	Qty	Description

EQUIPMENT ACKNOWLEDGMENT

Customer acknowledges that this equipment is suitable for the transportation, storage or other service to be provided.

Tractor #	Trailer #	Tanker #	Roll-Off Box #	w/ liner?	Spotted #	Picked up #	Vac Fee
<i>Ferry W. Kelly</i>		4408			<i>S</i>		
Driver Signature			3-7-17	Date	Customer Signature		3/7/17

Pickup	Date	Time	Explanation
Arrive at Shipper:		8:30	Pump waste from 5.5 ft to off load
Start Loading:	3-7-17		For disposal (2 tanks (1) tank)
Finish Loading:			
Leave Site:			

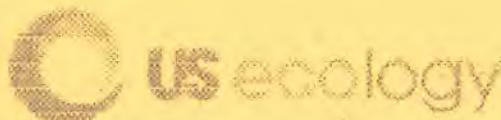
THIS IS TO CERTIFY THAT THE ABOVE NAMED MATERIALS ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED AND LABELED AND ARE IN PROPER CONDITION FOR TRANSPORTATION ACCORDING TO THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION.

Delivery	Date	Time	Explanation
Arrive at TSDF:			
Start Unloading:			
Finish Unloading:			
Leave Site:			

Driver Signature	Date	Receiver Signature	Date
------------------	------	--------------------	------

Please comment on the job so we can continue to provide better service:

Excellent     Satisfactory     Poor



EQ Northeast, Inc.  
185 Industrial Road  
Wrentham, MA 02093

Emergency  
Response #:

Phone: (508) 384-6151  
Fax: (508) 384-6028

Work Order: 8854100

Reference Code:

Arrival Time:

Date: 04/14/2017

Prepared By: Megan Hinton

BILLING INFORMATION

Name: WOODARD & CURRAN INC  
Acct #: 13134-99  
Phone: (866) 702-6371  
Addr: 35 NEW ENGLAND BUSINESS CNTR. Mobile: ( ) -  
S180  
ANDOVER, MA 01810

Contact:

Title:

Phone:

PO / Rel:

GENERATOR INFORMATION

Name: FORMER L&RR LANDFILL  
EPA #: RID093212439 (ID: 73759)  
Phone: (401) 578-9976  
Addr: OFF OLD OXFORD RD.  
NORTH SMITHFIELD, RI 02876

Contact:

Title:

Phone: ( ) -

Mobile: ( ) -

TSDF INFORMATION

TSDF: TRADEBE T&R OF STOUGHTON, LLC  
Addr: 441 REAR CANTON STREET  
STOUGHTON, MA 02072

TSDF Contact: Maureen/Brian  
Contact Phone: (888) 278-0886

EPA #: MAD062179890  
Phone: (781) 297-3530  
Fax: (781) 344-3020

Manifest: \_\_\_\_\_

TSDF Contact: Maureen/Brian  
Contact Phone: (888) 278-0886

TSDF: TRADEBE T&R OF STOUGHTON, LLC  
Addr: 441 REAR CANTON STREET  
STOUGHTON, MA 02072

EPA #: MAD062179890  
Phone: (781) 297-3530  
Fax: (781) 344-3020

HM DESCRIPTION

1. Non Hazardous Liquid Waste, Not DOT Not RCRA Regulated, None, None, None  
Approval Code: 1000121105 (74563) Waste Codes: NONE  
Hand. Instruct.

# OF CONT. TYPE QUANTITY UNIT

OF TT X1939 G

Supplies	Qty	Bill Unit	Qty Req	Description	Supplies	Qty	Bill Unit	Qty Req	Description
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## APPENDIX B: LABORATORY ANALYTICAL REPORTS AND DATA VALIDATION SUMMARIES



## ANALYTICAL REPORT

Lab Number:	L1710571
Client:	Woodard & Curran 40 Shattuck Road Suite 110 Andover, MA 01810
ATTN:	Mike Apfelbaum
Phone:	(978) 557-8150
Project Name:	L&RR
Project Number:	224263
Report Date:	04/17/17

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

---

Eight Walkup Drive, Westborough, MA 01581-1019  
508-898-9220 (Fax) 508-898-9193 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1710571-01	MW-201	WATER	NORTH SMITHFIELD, RI	04/05/17 08:36	04/05/17
L1710571-02	MW-202	WATER	NORTH SMITHFIELD, RI	04/05/17 07:46	04/05/17
L1710571-03	MW-102A	WATER	NORTH SMITHFIELD, RI	04/05/17 11:56	04/05/17
L1710571-04	MW-103A	WATER	NORTH SMITHFIELD, RI	04/05/17 10:06	04/05/17
L1710571-05	MW-104A	WATER	NORTH SMITHFIELD, RI	04/05/17 14:51	04/05/17
L1710571-06	CW-5B	WATER	NORTH SMITHFIELD, RI	04/05/17 11:01	04/05/17
L1710571-07	CW-7B	WATER	NORTH SMITHFIELD, RI	04/05/17 13:07	04/05/17
L1710571-08	SW-5	WATER	NORTH SMITHFIELD, RI	04/05/17 09:20	04/05/17
L1710571-09	SW-8	WATER	NORTH SMITHFIELD, RI	04/05/17 12:20	04/05/17
L1710571-10	SW-10	WATER	NORTH SMITHFIELD, RI	04/05/17 13:37	04/05/17
L1710571-11	SW-16	WATER	NORTH SMITHFIELD, RI	04/05/17 13:45	04/05/17
L1710571-12	LCH-3	WATER	NORTH SMITHFIELD, RI	04/05/17 14:00	04/05/17
L1710571-13	LCH-5	WATER	NORTH SMITHFIELD, RI	04/05/17 11:15	04/05/17
L1710571-14	DUP-1	WATER	NORTH SMITHFIELD, RI	04/05/17 11:56	04/05/17
L1710571-15	EQUIPMENT BLANK	WATER	NORTH SMITHFIELD, RI	04/05/17 15:15	04/05/17
L1710571-16	TRIP BLANK	WATER	NORTH SMITHFIELD, RI	04/05/17 00:00	04/05/17

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEX data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

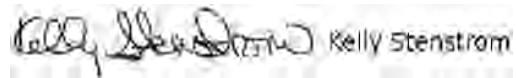
### Case Narrative (continued)

#### Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

Kelly Stenstrom

Title: Technical Director/Representative

Date: 04/17/17

# ORGANICS

# VOLATILES



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID: L1710571-01  
Client ID: MW-201  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water  
Analytical Method: 1,8260C  
Analytical Date: 04/15/17 11:07  
Analyst: PD

Date Collected: 04/05/17 08:36  
Date Received: 04/05/17  
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Methylene chloride	ND	ug/l	3.0	0.68	1	
1,1-Dichloroethane	ND	ug/l	0.75	0.21	1	
Chloroform	ND	ug/l	0.75	0.16	1	
Carbon tetrachloride	ND	ug/l	0.20	0.13	1	
1,2-Dichloropropane	ND	ug/l	1.0	0.14	1	
Dibromochloromethane	ND	ug/l	0.50	0.15	1	
1,1,2-Trichloroethane	ND	ug/l	0.75	0.14	1	
Tetrachloroethene	ND	ug/l	0.50	0.18	1	
Chlorobenzene	ND	ug/l	0.50	0.18	1	
Trichlorofluoromethane	ND	ug/l	1.0	0.16	1	
1,2-Dichloroethane	ND	ug/l	0.50	0.13	1	
1,1,1-Trichloroethane	ND	ug/l	0.50	0.16	1	
Bromodichloromethane	ND	ug/l	0.50	0.19	1	
trans-1,3-Dichloropropene	ND	ug/l	0.50	0.16	1	
cis-1,3-Dichloropropene	ND	ug/l	0.50	0.14	1	
1,3-Dichloropropene, Total	ND	ug/l	0.50	0.14	1	
1,1-Dichloropropene	ND	ug/l	1.0	0.17	1	
Bromoform	ND	ug/l	1.0	0.25	1	
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	0.17	1	
Benzene	ND	ug/l	0.20	0.16	1	
Toluene	ND	ug/l	0.75	0.16	1	
Ethylbenzene	ND	ug/l	0.50	0.17	1	
Chloromethane	ND	ug/l	2.0	0.18	1	
Bromomethane	ND	ug/l	1.0	0.26	1	
Vinyl chloride	ND	ug/l	0.20	0.07	1	
Chloroethane	ND	ug/l	1.0	0.13	1	
1,1-Dichloroethene	ND	ug/l	0.50	0.17	1	
trans-1,2-Dichloroethene	ND	ug/l	0.75	0.16	1	
1,2-Dichloroethene, Total	ND	ug/l	0.50	0.16	1	
Trichloroethene	ND	ug/l	0.20	0.18	1	



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-01	Date Collected:	04/05/17 08:36
Client ID:	MW-201	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2-Dichlorobenzene	ND	ug/l	1.0	0.18	1	
1,3-Dichlorobenzene	ND	ug/l	1.0	0.19	1	
1,4-Dichlorobenzene	ND	ug/l	1.0	0.19	1	
Methyl tert butyl ether	ND	ug/l	1.0	0.17	1	
p/m-Xylene	ND	ug/l	1.0	0.33	1	
o-Xylene	ND	ug/l	1.0	0.33	1	
Xylenes, Total	ND	ug/l	1.0	0.33	1	
cis-1,2-Dichloroethene	ND	ug/l	0.50	0.19	1	
Dibromomethane	ND	ug/l	1.0	0.36	1	
1,2,3-Trichloropropane	ND	ug/l	1.0	0.18	1	
Dichlorodifluoromethane	ND	ug/l	2.0	0.24	1	
Acetone	ND	ug/l	5.0	1.5	1	
Carbon disulfide	ND	ug/l	1.0	0.30	1	
2-Butanone	ND	ug/l	5.0	1.9	1	
4-Methyl-2-pentanone	ND	ug/l	5.0	0.42	1	
2-Hexanone	ND	ug/l	5.0	0.52	1	
Acrylonitrile	ND	ug/l	5.0	0.43	1	
Bromochloromethane	ND	ug/l	1.0	0.15	1	
Tetrahydrofuran	ND	ug/l	2.0	0.83	1	
2,2-Dichloropropane	ND	ug/l	1.0	0.20	1	
1,2-Dibromoethane	ND	ug/l	1.0	0.19	1	
1,3-Dichloropropane	ND	ug/l	1.0	0.21	1	
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	0.16	1	
Bromobenzene	ND	ug/l	1.0	0.15	1	
n-Butylbenzene	ND	ug/l	0.50	0.19	1	
sec-Butylbenzene	ND	ug/l	0.50	0.18	1	
tert-Butylbenzene	ND	ug/l	1.0	0.18	1	
o-Chlorotoluene	ND	ug/l	1.0	0.17	1	
p-Chlorotoluene	ND	ug/l	1.0	0.18	1	
1,2-Dibromo-3-chloropropane	ND	ug/l	1.0	0.35	1	
Hexachlorobutadiene	ND	ug/l	0.50	0.22	1	
Isopropylbenzene	ND	ug/l	0.50	0.19	1	
p-Isopropyltoluene	ND	ug/l	0.50	0.19	1	
Naphthalene	0.68	J	ug/l	1.0	0.22	1
n-Propylbenzene	ND	ug/l	0.50	0.17	1	
1,2,3-Trichlorobenzene	ND	ug/l	1.0	0.23	1	
1,2,4-Trichlorobenzene	ND	ug/l	1.0	0.22	1	
1,3,5-Trimethylbenzene	ND	ug/l	1.0	0.17	1	
1,3,5-Trichlorobenzene	ND	ug/l	1.0	0.14	1	

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-01	Date Collected:	04/05/17 08:36
Client ID:	MW-201	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2,4-Trimethylbenzene	ND	ug/l	1.0	0.19	1	
trans-1,4-Dichloro-2-butene	ND	ug/l	2.5	0.18	1	
Ethyl ether	ND	ug/l	1.0	0.16	1	
Diisopropyl Ether	ND	ug/l	1.0	0.42	1	
Tert-Butyl Alcohol	ND	ug/l	10	1.4	1	
Ethyl-Tert-Butyl-Ether	ND	ug/l	1.0	0.18	1	
Tertiary-Amyl Methyl Ether	ND	ug/l	1.0	0.28	1	
1,4-Dioxane	ND	ug/l	250	61.	1	
Freon-113	ND	ug/l	10	0.15	1	

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	110		70-130
4-Bromofluorobenzene	110		70-130
Dibromofluoromethane	103		70-130

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID: L1710571-01  
Client ID: MW-201  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water  
Analytical Method: 14,504.1  
Analytical Date: 04/11/17 15:50  
Analyst: NS

Date Collected: 04/05/17 08:36  
Date Received: 04/05/17  
Field Prep: Not Specified  
Extraction Method:EPA 504.1  
Extraction Date: 04/11/17 12:13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
<b>Microextractables by GC - Westborough Lab</b>							
1,2-Dibromoethane	ND		ug/l	0.011	0.004	1	A
1,2-Dibromo-3-chloropropane	ND		ug/l	0.011	0.005	1	A

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID: L1710571-02  
Client ID: MW-202  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water  
Analytical Method: 1,8260C  
Analytical Date: 04/15/17 11:30  
Analyst: PD

Date Collected: 04/05/17 07:46  
Date Received: 04/05/17  
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Methylene chloride	ND	ug/l	3.0	0.68	1	
1,1-Dichloroethane	ND	ug/l	0.75	0.21	1	
Chloroform	ND	ug/l	0.75	0.16	1	
Carbon tetrachloride	ND	ug/l	0.20	0.13	1	
1,2-Dichloropropane	ND	ug/l	1.0	0.14	1	
Dibromochloromethane	ND	ug/l	0.50	0.15	1	
1,1,2-Trichloroethane	ND	ug/l	0.75	0.14	1	
Tetrachloroethene	ND	ug/l	0.50	0.18	1	
Chlorobenzene	ND	ug/l	0.50	0.18	1	
Trichlorofluoromethane	ND	ug/l	1.0	0.16	1	
1,2-Dichloroethane	ND	ug/l	0.50	0.13	1	
1,1,1-Trichloroethane	ND	ug/l	0.50	0.16	1	
Bromodichloromethane	ND	ug/l	0.50	0.19	1	
trans-1,3-Dichloropropene	ND	ug/l	0.50	0.16	1	
cis-1,3-Dichloropropene	ND	ug/l	0.50	0.14	1	
1,3-Dichloropropene, Total	ND	ug/l	0.50	0.14	1	
1,1-Dichloropropene	ND	ug/l	1.0	0.17	1	
Bromoform	ND	ug/l	1.0	0.25	1	
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	0.17	1	
Benzene	ND	ug/l	0.20	0.16	1	
Toluene	ND	ug/l	0.75	0.16	1	
Ethylbenzene	ND	ug/l	0.50	0.17	1	
Chloromethane	ND	ug/l	2.0	0.18	1	
Bromomethane	ND	ug/l	1.0	0.26	1	
Vinyl chloride	ND	ug/l	0.20	0.07	1	
Chloroethane	ND	ug/l	1.0	0.13	1	
1,1-Dichloroethene	ND	ug/l	0.50	0.17	1	
trans-1,2-Dichloroethene	ND	ug/l	0.75	0.16	1	
1,2-Dichloroethene, Total	ND	ug/l	0.50	0.16	1	
Trichloroethene	ND	ug/l	0.20	0.18	1	



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-02	Date Collected:	04/05/17 07:46
Client ID:	MW-202	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2-Dichlorobenzene	ND	ug/l	1.0	0.18	1	
1,3-Dichlorobenzene	ND	ug/l	1.0	0.19	1	
1,4-Dichlorobenzene	ND	ug/l	1.0	0.19	1	
Methyl tert butyl ether	ND	ug/l	1.0	0.17	1	
p/m-Xylene	ND	ug/l	1.0	0.33	1	
o-Xylene	ND	ug/l	1.0	0.33	1	
Xylenes, Total	ND	ug/l	1.0	0.33	1	
cis-1,2-Dichloroethene	ND	ug/l	0.50	0.19	1	
Dibromomethane	ND	ug/l	1.0	0.36	1	
1,2,3-Trichloropropane	ND	ug/l	1.0	0.18	1	
Dichlorodifluoromethane	ND	ug/l	2.0	0.24	1	
Acetone	ND	ug/l	5.0	1.5	1	
Carbon disulfide	ND	ug/l	1.0	0.30	1	
2-Butanone	ND	ug/l	5.0	1.9	1	
4-Methyl-2-pentanone	ND	ug/l	5.0	0.42	1	
2-Hexanone	ND	ug/l	5.0	0.52	1	
Acrylonitrile	ND	ug/l	5.0	0.43	1	
Bromochloromethane	ND	ug/l	1.0	0.15	1	
Tetrahydrofuran	ND	ug/l	2.0	0.83	1	
2,2-Dichloropropane	ND	ug/l	1.0	0.20	1	
1,2-Dibromoethane	ND	ug/l	1.0	0.19	1	
1,3-Dichloropropane	ND	ug/l	1.0	0.21	1	
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	0.16	1	
Bromobenzene	ND	ug/l	1.0	0.15	1	
n-Butylbenzene	ND	ug/l	0.50	0.19	1	
sec-Butylbenzene	ND	ug/l	0.50	0.18	1	
tert-Butylbenzene	ND	ug/l	1.0	0.18	1	
o-Chlorotoluene	ND	ug/l	1.0	0.17	1	
p-Chlorotoluene	ND	ug/l	1.0	0.18	1	
1,2-Dibromo-3-chloropropane	ND	ug/l	1.0	0.35	1	
Hexachlorobutadiene	ND	ug/l	0.50	0.22	1	
Isopropylbenzene	ND	ug/l	0.50	0.19	1	
p-Isopropyltoluene	ND	ug/l	0.50	0.19	1	
Naphthalene	ND	ug/l	1.0	0.22	1	
n-Propylbenzene	ND	ug/l	0.50	0.17	1	
1,2,3-Trichlorobenzene	ND	ug/l	1.0	0.23	1	
1,2,4-Trichlorobenzene	ND	ug/l	1.0	0.22	1	
1,3,5-Trimethylbenzene	ND	ug/l	1.0	0.17	1	
1,3,5-Trichlorobenzene	ND	ug/l	1.0	0.14	1	



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-02	Date Collected:	04/05/17 07:46
Client ID:	MW-202	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2,4-Trimethylbenzene	ND	ug/l	1.0	0.19	1	
trans-1,4-Dichloro-2-butene	ND	ug/l	2.5	0.18	1	
Ethyl ether	ND	ug/l	1.0	0.16	1	
Diisopropyl Ether	ND	ug/l	1.0	0.42	1	
Tert-Butyl Alcohol	ND	ug/l	10	1.4	1	
Ethyl-Tert-Butyl-Ether	ND	ug/l	1.0	0.18	1	
Tertiary-Amyl Methyl Ether	ND	ug/l	1.0	0.28	1	
1,4-Dioxane	ND	ug/l	250	61.	1	
Freon-113	ND	ug/l	10	0.15	1	

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	103		70-130

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID: L1710571-02  
Client ID: MW-202  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water  
Analytical Method: 14,504.1  
Analytical Date: 04/11/17 16:05  
Analyst: NS

Date Collected: 04/05/17 07:46  
Date Received: 04/05/17  
Field Prep: Not Specified  
Extraction Method:EPA 504.1  
Extraction Date: 04/11/17 12:13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
<b>Microextractables by GC - Westborough Lab</b>							
1,2-Dibromoethane	ND		ug/l	0.011	0.004	1	A
1,2-Dibromo-3-chloropropane	ND		ug/l	0.011	0.005	1	A

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID: L1710571-03  
Client ID: MW-102A  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water  
Analytical Method: 1,8260C  
Analytical Date: 04/15/17 11:53  
Analyst: PD

Date Collected: 04/05/17 11:56  
Date Received: 04/05/17  
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Methylene chloride	ND		ug/l	3.0	0.68	1
1,1-Dichloroethane	9.0		ug/l	0.75	0.21	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.20	0.13	1
1,2-Dichloropropane	0.93	J	ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	0.90		ug/l	0.50	0.18	1
Chlorobenzene	3.6		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	1.0	0.16	1
1,2-Dichloroethane	0.26	J	ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	1.0	0.17	1
Bromoform	ND		ug/l	1.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	1.1		ug/l	0.20	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.0	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	5.7		ug/l	0.20	0.07	1
Chloroethane	0.85	J	ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	0.66	J	ug/l	0.75	0.16	1
1,2-Dichloroethene, Total	69	J	ug/l	0.50	0.16	1
Trichloroethene	2.2		ug/l	0.20	0.18	1



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-03	Date Collected:	04/05/17 11:56
Client ID:	MW-102A	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2-Dichlorobenzene	ND		ug/l	1.0	0.18	1
1,3-Dichlorobenzene	ND		ug/l	1.0	0.19	1
1,4-Dichlorobenzene	3.1		ug/l	1.0	0.19	1
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.33	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
cis-1,2-Dichloroethene	68		ug/l	0.50	0.19	1
Dibromomethane	ND		ug/l	1.0	0.36	1
1,2,3-Trichloropropane	ND		ug/l	1.0	0.18	1
Dichlorodifluoromethane	1.7	J	ug/l	2.0	0.24	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	1.0	0.30	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1
2-Hexanone	ND		ug/l	5.0	0.52	1
Acrylonitrile	ND		ug/l	5.0	0.43	1
Bromochloromethane	ND		ug/l	1.0	0.15	1
Tetrahydrofuran	ND		ug/l	2.0	0.83	1
2,2-Dichloropropane	ND		ug/l	1.0	0.20	1
1,2-Dibromoethane	ND		ug/l	1.0	0.19	1
1,3-Dichloropropane	ND		ug/l	1.0	0.21	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1
Bromobenzene	ND		ug/l	1.0	0.15	1
n-Butylbenzene	ND		ug/l	0.50	0.19	1
sec-Butylbenzene	ND		ug/l	0.50	0.18	1
tert-Butylbenzene	ND		ug/l	1.0	0.18	1
o-Chlorotoluene	ND		ug/l	1.0	0.17	1
p-Chlorotoluene	ND		ug/l	1.0	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/l	1.0	0.35	1
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
p-Isopropyltoluene	ND		ug/l	0.50	0.19	1
Naphthalene	ND		ug/l	1.0	0.22	1
n-Propylbenzene	ND		ug/l	0.50	0.17	1
1,2,3-Trichlorobenzene	ND		ug/l	1.0	0.23	1
1,2,4-Trichlorobenzene	ND		ug/l	1.0	0.22	1
1,3,5-Trimethylbenzene	ND		ug/l	1.0	0.17	1
1,3,5-Trichlorobenzene	ND		ug/l	1.0	0.14	1



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-03	Date Collected:	04/05/17 11:56
Client ID:	MW-102A	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2,4-Trimethylbenzene	ND		ug/l	1.0	0.19	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.18	1
Ethyl ether	3.8		ug/l	1.0	0.16	1
Diisopropyl Ether	ND		ug/l	1.0	0.42	1
Tert-Butyl Alcohol	1.4	J	ug/l	10	1.4	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	1.0	0.18	1
Tertiary-Amyl Methyl Ether	ND		ug/l	1.0	0.28	1
1,4-Dioxane	ND		ug/l	250	61.	1
Freon-113	ND		ug/l	10	0.15	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	105		70-130

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID: L1710571-03  
Client ID: MW-102A  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water  
Analytical Method: 14,504.1  
Analytical Date: 04/11/17 16:21  
Analyst: NS

Date Collected: 04/05/17 11:56  
Date Received: 04/05/17  
Field Prep: Not Specified  
Extraction Method:EPA 504.1  
Extraction Date: 04/11/17 12:13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
<b>Microextractables by GC - Westborough Lab</b>							
1,2-Dibromoethane	ND		ug/l	0.011	0.004	1	A
1,2-Dibromo-3-chloropropane	ND		ug/l	0.011	0.005	1	A

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID: L1710571-04  
Client ID: MW-103A  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water  
Analytical Method: 1,8260C  
Analytical Date: 04/15/17 12:16  
Analyst: PD

Date Collected: 04/05/17 10:06  
Date Received: 04/05/17  
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Methylene chloride	ND	ug/l	3.0	0.68	1	
1,1-Dichloroethane	ND	ug/l	0.75	0.21	1	
Chloroform	ND	ug/l	0.75	0.16	1	
Carbon tetrachloride	ND	ug/l	0.20	0.13	1	
1,2-Dichloropropane	ND	ug/l	1.0	0.14	1	
Dibromochloromethane	ND	ug/l	0.50	0.15	1	
1,1,2-Trichloroethane	ND	ug/l	0.75	0.14	1	
Tetrachloroethene	ND	ug/l	0.50	0.18	1	
Chlorobenzene	ND	ug/l	0.50	0.18	1	
Trichlorofluoromethane	ND	ug/l	1.0	0.16	1	
1,2-Dichloroethane	ND	ug/l	0.50	0.13	1	
1,1,1-Trichloroethane	ND	ug/l	0.50	0.16	1	
Bromodichloromethane	ND	ug/l	0.50	0.19	1	
trans-1,3-Dichloropropene	ND	ug/l	0.50	0.16	1	
cis-1,3-Dichloropropene	ND	ug/l	0.50	0.14	1	
1,3-Dichloropropene, Total	ND	ug/l	0.50	0.14	1	
1,1-Dichloropropene	ND	ug/l	1.0	0.17	1	
Bromoform	ND	ug/l	1.0	0.25	1	
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	0.17	1	
Benzene	ND	ug/l	0.20	0.16	1	
Toluene	ND	ug/l	0.75	0.16	1	
Ethylbenzene	ND	ug/l	0.50	0.17	1	
Chloromethane	ND	ug/l	2.0	0.18	1	
Bromomethane	ND	ug/l	1.0	0.26	1	
Vinyl chloride	ND	ug/l	0.20	0.07	1	
Chloroethane	ND	ug/l	1.0	0.13	1	
1,1-Dichloroethene	ND	ug/l	0.50	0.17	1	
trans-1,2-Dichloroethene	ND	ug/l	0.75	0.16	1	
1,2-Dichloroethene, Total	ND	ug/l	0.50	0.16	1	
Trichloroethene	ND	ug/l	0.20	0.18	1	



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-04	Date Collected:	04/05/17 10:06
Client ID:	MW-103A	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2-Dichlorobenzene	ND	ug/l	1.0	0.18	1	
1,3-Dichlorobenzene	ND	ug/l	1.0	0.19	1	
1,4-Dichlorobenzene	ND	ug/l	1.0	0.19	1	
Methyl tert butyl ether	ND	ug/l	1.0	0.17	1	
p/m-Xylene	ND	ug/l	1.0	0.33	1	
o-Xylene	ND	ug/l	1.0	0.33	1	
Xylenes, Total	ND	ug/l	1.0	0.33	1	
cis-1,2-Dichloroethene	ND	ug/l	0.50	0.19	1	
Dibromomethane	ND	ug/l	1.0	0.36	1	
1,2,3-Trichloropropane	ND	ug/l	1.0	0.18	1	
Dichlorodifluoromethane	ND	ug/l	2.0	0.24	1	
Acetone	ND	ug/l	5.0	1.5	1	
Carbon disulfide	ND	ug/l	1.0	0.30	1	
2-Butanone	ND	ug/l	5.0	1.9	1	
4-Methyl-2-pentanone	ND	ug/l	5.0	0.42	1	
2-Hexanone	ND	ug/l	5.0	0.52	1	
Acrylonitrile	ND	ug/l	5.0	0.43	1	
Bromochloromethane	ND	ug/l	1.0	0.15	1	
Tetrahydrofuran	ND	ug/l	2.0	0.83	1	
2,2-Dichloropropane	ND	ug/l	1.0	0.20	1	
1,2-Dibromoethane	ND	ug/l	1.0	0.19	1	
1,3-Dichloropropane	ND	ug/l	1.0	0.21	1	
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	0.16	1	
Bromobenzene	ND	ug/l	1.0	0.15	1	
n-Butylbenzene	ND	ug/l	0.50	0.19	1	
sec-Butylbenzene	ND	ug/l	0.50	0.18	1	
tert-Butylbenzene	ND	ug/l	1.0	0.18	1	
o-Chlorotoluene	ND	ug/l	1.0	0.17	1	
p-Chlorotoluene	ND	ug/l	1.0	0.18	1	
1,2-Dibromo-3-chloropropane	ND	ug/l	1.0	0.35	1	
Hexachlorobutadiene	ND	ug/l	0.50	0.22	1	
Isopropylbenzene	ND	ug/l	0.50	0.19	1	
p-Isopropyltoluene	ND	ug/l	0.50	0.19	1	
Naphthalene	ND	ug/l	1.0	0.22	1	
n-Propylbenzene	ND	ug/l	0.50	0.17	1	
1,2,3-Trichlorobenzene	ND	ug/l	1.0	0.23	1	
1,2,4-Trichlorobenzene	ND	ug/l	1.0	0.22	1	
1,3,5-Trimethylbenzene	ND	ug/l	1.0	0.17	1	
1,3,5-Trichlorobenzene	ND	ug/l	1.0	0.14	1	



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-04	Date Collected:	04/05/17 10:06
Client ID:	MW-103A	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2,4-Trimethylbenzene	ND	ug/l	1.0	0.19	1	
trans-1,4-Dichloro-2-butene	ND	ug/l	2.5	0.18	1	
Ethyl ether	ND	ug/l	1.0	0.16	1	
Diisopropyl Ether	ND	ug/l	1.0	0.42	1	
Tert-Butyl Alcohol	ND	ug/l	10	1.4	1	
Ethyl-Tert-Butyl-Ether	ND	ug/l	1.0	0.18	1	
Tertiary-Amyl Methyl Ether	ND	ug/l	1.0	0.28	1	
1,4-Dioxane	ND	ug/l	250	61.	1	
Freon-113	ND	ug/l	10	0.15	1	

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	105		70-130

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-04	Date Collected:	04/05/17 10:06
Client ID:	MW-103A	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 504.1
Analytical Method:	14,504.1	Extraction Date:	04/11/17 12:13
Analytical Date:	04/11/17 16:37		
Analyst:	NS		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
<b>Microextractables by GC - Westborough Lab</b>							
1,2-Dibromoethane	ND		ug/l	0.011	0.004	1	A
1,2-Dibromo-3-chloropropane	ND		ug/l	0.011	0.005	1	A

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID: L1710571-05  
Client ID: MW-104A  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water  
Analytical Method: 1,8260C  
Analytical Date: 04/15/17 12:39  
Analyst: PD

Date Collected: 04/05/17 14:51  
Date Received: 04/05/17  
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Methylene chloride	ND	ug/l	3.0	0.68	1	
1,1-Dichloroethane	ND	ug/l	0.75	0.21	1	
Chloroform	ND	ug/l	0.75	0.16	1	
Carbon tetrachloride	ND	ug/l	0.20	0.13	1	
1,2-Dichloropropane	ND	ug/l	1.0	0.14	1	
Dibromochloromethane	ND	ug/l	0.50	0.15	1	
1,1,2-Trichloroethane	ND	ug/l	0.75	0.14	1	
Tetrachloroethene	ND	ug/l	0.50	0.18	1	
Chlorobenzene	ND	ug/l	0.50	0.18	1	
Trichlorofluoromethane	ND	ug/l	1.0	0.16	1	
1,2-Dichloroethane	ND	ug/l	0.50	0.13	1	
1,1,1-Trichloroethane	ND	ug/l	0.50	0.16	1	
Bromodichloromethane	ND	ug/l	0.50	0.19	1	
trans-1,3-Dichloropropene	ND	ug/l	0.50	0.16	1	
cis-1,3-Dichloropropene	ND	ug/l	0.50	0.14	1	
1,3-Dichloropropene, Total	ND	ug/l	0.50	0.14	1	
1,1-Dichloropropene	ND	ug/l	1.0	0.17	1	
Bromoform	ND	ug/l	1.0	0.25	1	
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	0.17	1	
Benzene	ND	ug/l	0.20	0.16	1	
Toluene	ND	ug/l	0.75	0.16	1	
Ethylbenzene	ND	ug/l	0.50	0.17	1	
Chloromethane	ND	ug/l	2.0	0.18	1	
Bromomethane	ND	ug/l	1.0	0.26	1	
Vinyl chloride	ND	ug/l	0.20	0.07	1	
Chloroethane	ND	ug/l	1.0	0.13	1	
1,1-Dichloroethene	ND	ug/l	0.50	0.17	1	
trans-1,2-Dichloroethene	ND	ug/l	0.75	0.16	1	
1,2-Dichloroethene, Total	ND	ug/l	0.50	0.16	1	
Trichloroethene	ND	ug/l	0.20	0.18	1	



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-05	Date Collected:	04/05/17 14:51
Client ID:	MW-104A	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2-Dichlorobenzene	ND		ug/l	1.0	0.18	1
1,3-Dichlorobenzene	ND		ug/l	1.0	0.19	1
1,4-Dichlorobenzene	0.45	J	ug/l	1.0	0.19	1
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.33	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Dibromomethane	ND		ug/l	1.0	0.36	1
1,2,3-Trichloropropane	ND		ug/l	1.0	0.18	1
Dichlorodifluoromethane	ND		ug/l	2.0	0.24	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	1.0	0.30	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1
2-Hexanone	ND		ug/l	5.0	0.52	1
Acrylonitrile	ND		ug/l	5.0	0.43	1
Bromochloromethane	ND		ug/l	1.0	0.15	1
Tetrahydrofuran	ND		ug/l	2.0	0.83	1
2,2-Dichloropropane	ND		ug/l	1.0	0.20	1
1,2-Dibromoethane	ND		ug/l	1.0	0.19	1
1,3-Dichloropropane	ND		ug/l	1.0	0.21	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1
Bromobenzene	ND		ug/l	1.0	0.15	1
n-Butylbenzene	ND		ug/l	0.50	0.19	1
sec-Butylbenzene	ND		ug/l	0.50	0.18	1
tert-Butylbenzene	ND		ug/l	1.0	0.18	1
o-Chlorotoluene	ND		ug/l	1.0	0.17	1
p-Chlorotoluene	ND		ug/l	1.0	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/l	1.0	0.35	1
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
p-Isopropyltoluene	ND		ug/l	0.50	0.19	1
Naphthalene	0.73	J	ug/l	1.0	0.22	1
n-Propylbenzene	ND		ug/l	0.50	0.17	1
1,2,3-Trichlorobenzene	ND		ug/l	1.0	0.23	1
1,2,4-Trichlorobenzene	ND		ug/l	1.0	0.22	1
1,3,5-Trimethylbenzene	ND		ug/l	1.0	0.17	1
1,3,5-Trichlorobenzene	ND		ug/l	1.0	0.14	1



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-05	Date Collected:	04/05/17 14:51
Client ID:	MW-104A	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2,4-Trimethylbenzene	ND		ug/l	1.0	0.19	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.18	1
Ethyl ether	0.17	J	ug/l	1.0	0.16	1
Diisopropyl Ether	ND		ug/l	1.0	0.42	1
Tert-Butyl Alcohol	4.2	J	ug/l	10	1.4	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	1.0	0.18	1
Tertiary-Amyl Methyl Ether	ND		ug/l	1.0	0.28	1
1,4-Dioxane	ND		ug/l	250	61.	1
Freon-113	ND		ug/l	10	0.15	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	105		70-130

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-05	Date Collected:	04/05/17 14:51
Client ID:	MW-104A	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 504.1
Analytical Method:	14,504.1	Extraction Date:	04/11/17 12:13
Analytical Date:	04/11/17 16:53		
Analyst:	NS		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
<b>Microextractables by GC - Westborough Lab</b>							
1,2-Dibromoethane	ND		ug/l	0.011	0.004	1	A
1,2-Dibromo-3-chloropropane	ND		ug/l	0.011	0.005	1	A

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID: L1710571-06  
Client ID: CW-5B  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water  
Analytical Method: 1,8260C  
Analytical Date: 04/15/17 13:02  
Analyst: PD

Date Collected: 04/05/17 11:01  
Date Received: 04/05/17  
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Methylene chloride	ND	ug/l	3.0	0.68	1	
1,1-Dichloroethane	ND	ug/l	0.75	0.21	1	
Chloroform	ND	ug/l	0.75	0.16	1	
Carbon tetrachloride	ND	ug/l	0.20	0.13	1	
1,2-Dichloropropane	ND	ug/l	1.0	0.14	1	
Dibromochloromethane	ND	ug/l	0.50	0.15	1	
1,1,2-Trichloroethane	ND	ug/l	0.75	0.14	1	
Tetrachloroethene	1.1	ug/l	0.50	0.18	1	
Chlorobenzene	ND	ug/l	0.50	0.18	1	
Trichlorofluoromethane	ND	ug/l	1.0	0.16	1	
1,2-Dichloroethane	ND	ug/l	0.50	0.13	1	
1,1,1-Trichloroethane	ND	ug/l	0.50	0.16	1	
Bromodichloromethane	ND	ug/l	0.50	0.19	1	
trans-1,3-Dichloropropene	ND	ug/l	0.50	0.16	1	
cis-1,3-Dichloropropene	ND	ug/l	0.50	0.14	1	
1,3-Dichloropropene, Total	ND	ug/l	0.50	0.14	1	
1,1-Dichloropropene	ND	ug/l	1.0	0.17	1	
Bromoform	ND	ug/l	1.0	0.25	1	
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	0.17	1	
Benzene	ND	ug/l	0.20	0.16	1	
Toluene	ND	ug/l	0.75	0.16	1	
Ethylbenzene	ND	ug/l	0.50	0.17	1	
Chloromethane	ND	ug/l	2.0	0.18	1	
Bromomethane	ND	ug/l	1.0	0.26	1	
Vinyl chloride	ND	ug/l	0.20	0.07	1	
Chloroethane	ND	ug/l	1.0	0.13	1	
1,1-Dichloroethene	ND	ug/l	0.50	0.17	1	
trans-1,2-Dichloroethene	ND	ug/l	0.75	0.16	1	
1,2-Dichloroethene, Total	ND	ug/l	0.50	0.16	1	
Trichloroethene	ND	ug/l	0.20	0.18	1	



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-06	Date Collected:	04/05/17 11:01
Client ID:	CW-5B	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2-Dichlorobenzene	ND	ug/l	1.0	0.18	1	
1,3-Dichlorobenzene	ND	ug/l	1.0	0.19	1	
1,4-Dichlorobenzene	ND	ug/l	1.0	0.19	1	
Methyl tert butyl ether	ND	ug/l	1.0	0.17	1	
p/m-Xylene	ND	ug/l	1.0	0.33	1	
o-Xylene	ND	ug/l	1.0	0.33	1	
Xylenes, Total	ND	ug/l	1.0	0.33	1	
cis-1,2-Dichloroethene	ND	ug/l	0.50	0.19	1	
Dibromomethane	ND	ug/l	1.0	0.36	1	
1,2,3-Trichloropropane	ND	ug/l	1.0	0.18	1	
Dichlorodifluoromethane	2.4	ug/l	2.0	0.24	1	
Acetone	ND	ug/l	5.0	1.5	1	
Carbon disulfide	ND	ug/l	1.0	0.30	1	
2-Butanone	ND	ug/l	5.0	1.9	1	
4-Methyl-2-pentanone	ND	ug/l	5.0	0.42	1	
2-Hexanone	ND	ug/l	5.0	0.52	1	
Acrylonitrile	ND	ug/l	5.0	0.43	1	
Bromochloromethane	ND	ug/l	1.0	0.15	1	
Tetrahydrofuran	ND	ug/l	2.0	0.83	1	
2,2-Dichloropropane	ND	ug/l	1.0	0.20	1	
1,2-Dibromoethane	ND	ug/l	1.0	0.19	1	
1,3-Dichloropropane	ND	ug/l	1.0	0.21	1	
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	0.16	1	
Bromobenzene	ND	ug/l	1.0	0.15	1	
n-Butylbenzene	ND	ug/l	0.50	0.19	1	
sec-Butylbenzene	ND	ug/l	0.50	0.18	1	
tert-Butylbenzene	ND	ug/l	1.0	0.18	1	
o-Chlorotoluene	ND	ug/l	1.0	0.17	1	
p-Chlorotoluene	ND	ug/l	1.0	0.18	1	
1,2-Dibromo-3-chloropropane	ND	ug/l	1.0	0.35	1	
Hexachlorobutadiene	ND	ug/l	0.50	0.22	1	
Isopropylbenzene	ND	ug/l	0.50	0.19	1	
p-Isopropyltoluene	ND	ug/l	0.50	0.19	1	
Naphthalene	ND	ug/l	1.0	0.22	1	
n-Propylbenzene	ND	ug/l	0.50	0.17	1	
1,2,3-Trichlorobenzene	ND	ug/l	1.0	0.23	1	
1,2,4-Trichlorobenzene	ND	ug/l	1.0	0.22	1	
1,3,5-Trimethylbenzene	ND	ug/l	1.0	0.17	1	
1,3,5-Trichlorobenzene	ND	ug/l	1.0	0.14	1	



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-06	Date Collected:	04/05/17 11:01
Client ID:	CW-5B	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2,4-Trimethylbenzene	ND	ug/l	1.0	0.19	1	
trans-1,4-Dichloro-2-butene	ND	ug/l	2.5	0.18	1	
Ethyl ether	ND	ug/l	1.0	0.16	1	
Diisopropyl Ether	ND	ug/l	1.0	0.42	1	
Tert-Butyl Alcohol	ND	ug/l	10	1.4	1	
Ethyl-Tert-Butyl-Ether	ND	ug/l	1.0	0.18	1	
Tertiary-Amyl Methyl Ether	ND	ug/l	1.0	0.28	1	
1,4-Dioxane	ND	ug/l	250	61.	1	
Freon-113	ND	ug/l	10	0.15	1	

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	106		70-130

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID: L1710571-06  
Client ID: CW-5B  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water  
Analytical Method: 14,504.1  
Analytical Date: 04/11/17 17:09  
Analyst: NS

Date Collected: 04/05/17 11:01  
Date Received: 04/05/17  
Field Prep: Not Specified  
Extraction Method:EPA 504.1  
Extraction Date: 04/11/17 12:13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
<b>Microextractables by GC - Westborough Lab</b>							
1,2-Dibromoethane	ND		ug/l	0.011	0.004	1	A
1,2-Dibromo-3-chloropropane	ND		ug/l	0.011	0.005	1	A

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID: L1710571-07  
Client ID: CW-7B  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water  
Analytical Method: 1,8260C  
Analytical Date: 04/15/17 13:25  
Analyst: PD

Date Collected: 04/05/17 13:07  
Date Received: 04/05/17  
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Methylene chloride	ND	ug/l	3.0	0.68	1	
1,1-Dichloroethane	ND	ug/l	0.75	0.21	1	
Chloroform	ND	ug/l	0.75	0.16	1	
Carbon tetrachloride	ND	ug/l	0.20	0.13	1	
1,2-Dichloropropane	ND	ug/l	1.0	0.14	1	
Dibromochloromethane	ND	ug/l	0.50	0.15	1	
1,1,2-Trichloroethane	ND	ug/l	0.75	0.14	1	
Tetrachloroethene	ND	ug/l	0.50	0.18	1	
Chlorobenzene	ND	ug/l	0.50	0.18	1	
Trichlorofluoromethane	ND	ug/l	1.0	0.16	1	
1,2-Dichloroethane	ND	ug/l	0.50	0.13	1	
1,1,1-Trichloroethane	ND	ug/l	0.50	0.16	1	
Bromodichloromethane	ND	ug/l	0.50	0.19	1	
trans-1,3-Dichloropropene	ND	ug/l	0.50	0.16	1	
cis-1,3-Dichloropropene	ND	ug/l	0.50	0.14	1	
1,3-Dichloropropene, Total	ND	ug/l	0.50	0.14	1	
1,1-Dichloropropene	ND	ug/l	1.0	0.17	1	
Bromoform	ND	ug/l	1.0	0.25	1	
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	0.17	1	
Benzene	ND	ug/l	0.20	0.16	1	
Toluene	ND	ug/l	0.75	0.16	1	
Ethylbenzene	ND	ug/l	0.50	0.17	1	
Chloromethane	ND	ug/l	2.0	0.18	1	
Bromomethane	ND	ug/l	1.0	0.26	1	
Vinyl chloride	ND	ug/l	0.20	0.07	1	
Chloroethane	ND	ug/l	1.0	0.13	1	
1,1-Dichloroethene	ND	ug/l	0.50	0.17	1	
trans-1,2-Dichloroethene	ND	ug/l	0.75	0.16	1	
1,2-Dichloroethene, Total	ND	ug/l	0.50	0.16	1	
Trichloroethene	ND	ug/l	0.20	0.18	1	



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-07	Date Collected:	04/05/17 13:07
Client ID:	CW-7B	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2-Dichlorobenzene	ND	ug/l	1.0	0.18	1	
1,3-Dichlorobenzene	ND	ug/l	1.0	0.19	1	
1,4-Dichlorobenzene	ND	ug/l	1.0	0.19	1	
Methyl tert butyl ether	ND	ug/l	1.0	0.17	1	
p/m-Xylene	ND	ug/l	1.0	0.33	1	
o-Xylene	ND	ug/l	1.0	0.33	1	
Xylenes, Total	ND	ug/l	1.0	0.33	1	
cis-1,2-Dichloroethene	ND	ug/l	0.50	0.19	1	
Dibromomethane	ND	ug/l	1.0	0.36	1	
1,2,3-Trichloropropane	ND	ug/l	1.0	0.18	1	
Dichlorodifluoromethane	ND	ug/l	2.0	0.24	1	
Acetone	ND	ug/l	5.0	1.5	1	
Carbon disulfide	ND	ug/l	1.0	0.30	1	
2-Butanone	ND	ug/l	5.0	1.9	1	
4-Methyl-2-pentanone	ND	ug/l	5.0	0.42	1	
2-Hexanone	ND	ug/l	5.0	0.52	1	
Acrylonitrile	ND	ug/l	5.0	0.43	1	
Bromochloromethane	ND	ug/l	1.0	0.15	1	
Tetrahydrofuran	ND	ug/l	2.0	0.83	1	
2,2-Dichloropropane	ND	ug/l	1.0	0.20	1	
1,2-Dibromoethane	ND	ug/l	1.0	0.19	1	
1,3-Dichloropropane	ND	ug/l	1.0	0.21	1	
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	0.16	1	
Bromobenzene	ND	ug/l	1.0	0.15	1	
n-Butylbenzene	ND	ug/l	0.50	0.19	1	
sec-Butylbenzene	ND	ug/l	0.50	0.18	1	
tert-Butylbenzene	ND	ug/l	1.0	0.18	1	
o-Chlorotoluene	ND	ug/l	1.0	0.17	1	
p-Chlorotoluene	ND	ug/l	1.0	0.18	1	
1,2-Dibromo-3-chloropropane	ND	ug/l	1.0	0.35	1	
Hexachlorobutadiene	ND	ug/l	0.50	0.22	1	
Isopropylbenzene	ND	ug/l	0.50	0.19	1	
p-Isopropyltoluene	ND	ug/l	0.50	0.19	1	
Naphthalene	ND	ug/l	1.0	0.22	1	
n-Propylbenzene	ND	ug/l	0.50	0.17	1	
1,2,3-Trichlorobenzene	ND	ug/l	1.0	0.23	1	
1,2,4-Trichlorobenzene	ND	ug/l	1.0	0.22	1	
1,3,5-Trimethylbenzene	ND	ug/l	1.0	0.17	1	
1,3,5-Trichlorobenzene	ND	ug/l	1.0	0.14	1	



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-07	Date Collected:	04/05/17 13:07
Client ID:	CW-7B	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2,4-Trimethylbenzene	ND		ug/l	1.0	0.19	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.18	1
Ethyl ether	ND		ug/l	1.0	0.16	1
Diisopropyl Ether	ND		ug/l	1.0	0.42	1
Tert-Butyl Alcohol	4.9	J	ug/l	10	1.4	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	1.0	0.18	1
Tertiary-Amyl Methyl Ether	ND		ug/l	1.0	0.28	1
1,4-Dioxane	ND		ug/l	250	61.	1
Freon-113	ND		ug/l	10	0.15	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	118		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	108		70-130

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-07	Date Collected:	04/05/17 13:07
Client ID:	CW-7B	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 504.1
Analytical Method:	14,504.1	Extraction Date:	04/11/17 12:13
Analytical Date:	04/11/17 17:40		
Analyst:	NS		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
<b>Microextractables by GC - Westborough Lab</b>							
1,2-Dibromoethane	ND		ug/l	0.011	0.004	1	A
1,2-Dibromo-3-chloropropane	ND		ug/l	0.011	0.005	1	A

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID: L1710571-08  
Client ID: SW-5  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water  
Analytical Method: 1,8260C  
Analytical Date: 04/15/17 13:48  
Analyst: PD

Date Collected: 04/05/17 09:20  
Date Received: 04/05/17  
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Methylene chloride	ND	ug/l	3.0	0.68	1	
1,1-Dichloroethane	ND	ug/l	0.75	0.21	1	
Chloroform	ND	ug/l	0.75	0.16	1	
Carbon tetrachloride	ND	ug/l	0.20	0.13	1	
1,2-Dichloropropane	ND	ug/l	1.0	0.14	1	
Dibromochloromethane	ND	ug/l	0.50	0.15	1	
1,1,2-Trichloroethane	ND	ug/l	0.75	0.14	1	
Tetrachloroethene	ND	ug/l	0.50	0.18	1	
Chlorobenzene	ND	ug/l	0.50	0.18	1	
Trichlorofluoromethane	ND	ug/l	1.0	0.16	1	
1,2-Dichloroethane	ND	ug/l	0.50	0.13	1	
1,1,1-Trichloroethane	ND	ug/l	0.50	0.16	1	
Bromodichloromethane	ND	ug/l	0.50	0.19	1	
trans-1,3-Dichloropropene	ND	ug/l	0.50	0.16	1	
cis-1,3-Dichloropropene	ND	ug/l	0.50	0.14	1	
1,3-Dichloropropene, Total	ND	ug/l	0.50	0.14	1	
1,1-Dichloropropene	ND	ug/l	1.0	0.17	1	
Bromoform	ND	ug/l	1.0	0.25	1	
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	0.17	1	
Benzene	ND	ug/l	0.20	0.16	1	
Toluene	ND	ug/l	0.75	0.16	1	
Ethylbenzene	ND	ug/l	0.50	0.17	1	
Chloromethane	ND	ug/l	2.0	0.18	1	
Bromomethane	ND	ug/l	1.0	0.26	1	
Vinyl chloride	ND	ug/l	0.20	0.07	1	
Chloroethane	ND	ug/l	1.0	0.13	1	
1,1-Dichloroethene	ND	ug/l	0.50	0.17	1	
trans-1,2-Dichloroethene	ND	ug/l	0.75	0.16	1	
1,2-Dichloroethene, Total	ND	ug/l	0.50	0.16	1	
Trichloroethene	ND	ug/l	0.20	0.18	1	



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-08	Date Collected:	04/05/17 09:20
Client ID:	SW-5	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2-Dichlorobenzene	ND	ug/l	1.0	0.18	1	
1,3-Dichlorobenzene	ND	ug/l	1.0	0.19	1	
1,4-Dichlorobenzene	ND	ug/l	1.0	0.19	1	
Methyl tert butyl ether	ND	ug/l	1.0	0.17	1	
p/m-Xylene	ND	ug/l	1.0	0.33	1	
o-Xylene	ND	ug/l	1.0	0.33	1	
Xylenes, Total	ND	ug/l	1.0	0.33	1	
cis-1,2-Dichloroethene	ND	ug/l	0.50	0.19	1	
Dibromomethane	ND	ug/l	1.0	0.36	1	
1,2,3-Trichloropropane	ND	ug/l	1.0	0.18	1	
Dichlorodifluoromethane	ND	ug/l	2.0	0.24	1	
Acetone	ND	ug/l	5.0	1.5	1	
Carbon disulfide	ND	ug/l	1.0	0.30	1	
2-Butanone	ND	ug/l	5.0	1.9	1	
4-Methyl-2-pentanone	ND	ug/l	5.0	0.42	1	
2-Hexanone	ND	ug/l	5.0	0.52	1	
Acrylonitrile	ND	ug/l	5.0	0.43	1	
Bromochloromethane	ND	ug/l	1.0	0.15	1	
Tetrahydrofuran	ND	ug/l	2.0	0.83	1	
2,2-Dichloropropane	ND	ug/l	1.0	0.20	1	
1,2-Dibromoethane	ND	ug/l	1.0	0.19	1	
1,3-Dichloropropane	ND	ug/l	1.0	0.21	1	
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	0.16	1	
Bromobenzene	ND	ug/l	1.0	0.15	1	
n-Butylbenzene	ND	ug/l	0.50	0.19	1	
sec-Butylbenzene	ND	ug/l	0.50	0.18	1	
tert-Butylbenzene	ND	ug/l	1.0	0.18	1	
o-Chlorotoluene	ND	ug/l	1.0	0.17	1	
p-Chlorotoluene	ND	ug/l	1.0	0.18	1	
1,2-Dibromo-3-chloropropane	ND	ug/l	1.0	0.35	1	
Hexachlorobutadiene	ND	ug/l	0.50	0.22	1	
Isopropylbenzene	ND	ug/l	0.50	0.19	1	
p-Isopropyltoluene	ND	ug/l	0.50	0.19	1	
Naphthalene	ND	ug/l	1.0	0.22	1	
n-Propylbenzene	ND	ug/l	0.50	0.17	1	
1,2,3-Trichlorobenzene	ND	ug/l	1.0	0.23	1	
1,2,4-Trichlorobenzene	ND	ug/l	1.0	0.22	1	
1,3,5-Trimethylbenzene	ND	ug/l	1.0	0.17	1	
1,3,5-Trichlorobenzene	ND	ug/l	1.0	0.14	1	

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-08	Date Collected:	04/05/17 09:20
Client ID:	SW-5	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2,4-Trimethylbenzene	ND	ug/l	1.0	0.19	1	
trans-1,4-Dichloro-2-butene	ND	ug/l	2.5	0.18	1	
Ethyl ether	ND	ug/l	1.0	0.16	1	
Diisopropyl Ether	ND	ug/l	1.0	0.42	1	
Tert-Butyl Alcohol	ND	ug/l	10	1.4	1	
Ethyl-Tert-Butyl-Ether	ND	ug/l	1.0	0.18	1	
Tertiary-Amyl Methyl Ether	ND	ug/l	1.0	0.28	1	
1,4-Dioxane	ND	ug/l	250	61.	1	
Freon-113	ND	ug/l	10	0.15	1	

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	117		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	108		70-130

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID: L1710571-09  
Client ID: SW-8  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water  
Analytical Method: 1,8260C  
Analytical Date: 04/15/17 14:11  
Analyst: PD

Date Collected: 04/05/17 12:20  
Date Received: 04/05/17  
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Methylene chloride	ND		ug/l	3.0	0.68	1
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.20	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	0.38	J	ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	1.0	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	1.0	0.17	1
Bromoform	ND		ug/l	1.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.20	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.0	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	0.20	0.07	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1
Trichloroethene	ND		ug/l	0.20	0.18	1



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-09	Date Collected:	04/05/17 12:20
Client ID:	SW-8	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2-Dichlorobenzene	ND		ug/l	1.0	0.18	1
1,3-Dichlorobenzene	ND		ug/l	1.0	0.19	1
1,4-Dichlorobenzene	0.54	J	ug/l	1.0	0.19	1
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.33	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Dibromomethane	ND		ug/l	1.0	0.36	1
1,2,3-Trichloropropane	ND		ug/l	1.0	0.18	1
Dichlorodifluoromethane	ND		ug/l	2.0	0.24	1
Acetone	4.0	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	1.0	0.30	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1
2-Hexanone	ND		ug/l	5.0	0.52	1
Acrylonitrile	ND		ug/l	5.0	0.43	1
Bromochloromethane	ND		ug/l	1.0	0.15	1
Tetrahydrofuran	1.7	J	ug/l	2.0	0.83	1
2,2-Dichloropropane	ND		ug/l	1.0	0.20	1
1,2-Dibromoethane	ND		ug/l	1.0	0.19	1
1,3-Dichloropropane	ND		ug/l	1.0	0.21	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1
Bromobenzene	ND		ug/l	1.0	0.15	1
n-Butylbenzene	ND		ug/l	0.50	0.19	1
sec-Butylbenzene	ND		ug/l	0.50	0.18	1
tert-Butylbenzene	ND		ug/l	1.0	0.18	1
o-Chlorotoluene	ND		ug/l	1.0	0.17	1
p-Chlorotoluene	ND		ug/l	1.0	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/l	1.0	0.35	1
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
p-Isopropyltoluene	ND		ug/l	0.50	0.19	1
Naphthalene	ND		ug/l	1.0	0.22	1
n-Propylbenzene	ND		ug/l	0.50	0.17	1
1,2,3-Trichlorobenzene	ND		ug/l	1.0	0.23	1
1,2,4-Trichlorobenzene	ND		ug/l	1.0	0.22	1
1,3,5-Trimethylbenzene	ND		ug/l	1.0	0.17	1
1,3,5-Trichlorobenzene	ND		ug/l	1.0	0.14	1



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-09	Date Collected:	04/05/17 12:20
Client ID:	SW-8	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2,4-Trimethylbenzene	ND	ug/l	1.0	0.19	1	
trans-1,4-Dichloro-2-butene	ND	ug/l	2.5	0.18	1	
Ethyl ether	1.3	ug/l	1.0	0.16	1	
Diisopropyl Ether	ND	ug/l	1.0	0.42	1	
Tert-Butyl Alcohol	28	ug/l	10	1.4	1	
Ethyl-Tert-Butyl-Ether	ND	ug/l	1.0	0.18	1	
Tertiary-Amyl Methyl Ether	ND	ug/l	1.0	0.28	1	
1,4-Dioxane	ND	ug/l	250	61.	1	
Freon-113	ND	ug/l	10	0.15	1	

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	118		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	109		70-130

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID: L1710571-10  
Client ID: SW-10  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water  
Analytical Method: 1,8260C  
Analytical Date: 04/15/17 14:34  
Analyst: PD

Date Collected: 04/05/17 13:37  
Date Received: 04/05/17  
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Methylene chloride	ND		ug/l	3.0	0.68	1
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.20	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	1.0	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	1.0	0.17	1
Bromoform	ND		ug/l	1.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.20	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.0	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	0.20	0.07	1
Chloroethane	0.37	J	ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1
Trichloroethene	ND		ug/l	0.20	0.18	1



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-10	Date Collected:	04/05/17 13:37
Client ID:	SW-10	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2-Dichlorobenzene	ND		ug/l	1.0	0.18	1
1,3-Dichlorobenzene	ND		ug/l	1.0	0.19	1
1,4-Dichlorobenzene	ND		ug/l	1.0	0.19	1
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.33	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Dibromomethane	ND		ug/l	1.0	0.36	1
1,2,3-Trichloropropane	ND		ug/l	1.0	0.18	1
Dichlorodifluoromethane	ND		ug/l	2.0	0.24	1
Acetone	2.4	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	1.0	0.30	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1
2-Hexanone	ND		ug/l	5.0	0.52	1
Acrylonitrile	ND		ug/l	5.0	0.43	1
Bromochloromethane	ND		ug/l	1.0	0.15	1
Tetrahydrofuran	ND		ug/l	2.0	0.83	1
2,2-Dichloropropane	ND		ug/l	1.0	0.20	1
1,2-Dibromoethane	ND		ug/l	1.0	0.19	1
1,3-Dichloropropane	ND		ug/l	1.0	0.21	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1
Bromobenzene	ND		ug/l	1.0	0.15	1
n-Butylbenzene	ND		ug/l	0.50	0.19	1
sec-Butylbenzene	ND		ug/l	0.50	0.18	1
tert-Butylbenzene	ND		ug/l	1.0	0.18	1
o-Chlorotoluene	ND		ug/l	1.0	0.17	1
p-Chlorotoluene	ND		ug/l	1.0	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/l	1.0	0.35	1
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
p-Isopropyltoluene	ND		ug/l	0.50	0.19	1
Naphthalene	ND		ug/l	1.0	0.22	1
n-Propylbenzene	ND		ug/l	0.50	0.17	1
1,2,3-Trichlorobenzene	ND		ug/l	1.0	0.23	1
1,2,4-Trichlorobenzene	ND		ug/l	1.0	0.22	1
1,3,5-Trimethylbenzene	ND		ug/l	1.0	0.17	1
1,3,5-Trichlorobenzene	ND		ug/l	1.0	0.14	1



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-10	Date Collected:	04/05/17 13:37
Client ID:	SW-10	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2,4-Trimethylbenzene	ND		ug/l	1.0	0.19	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.18	1
Ethyl ether	0.60	J	ug/l	1.0	0.16	1
Diisopropyl Ether	ND		ug/l	1.0	0.42	1
Tert-Butyl Alcohol	4.1	J	ug/l	10	1.4	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	1.0	0.18	1
Tertiary-Amyl Methyl Ether	ND		ug/l	1.0	0.28	1
1,4-Dioxane	ND		ug/l	250	61.	1
Freon-113	ND		ug/l	10	0.15	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	115		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	108		70-130

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID: L1710571-11  
Client ID: SW-16  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water  
Analytical Method: 1,8260C  
Analytical Date: 04/15/17 14:58  
Analyst: PD

Date Collected: 04/05/17 13:45  
Date Received: 04/05/17  
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Methylene chloride	ND	ug/l	3.0	0.68	1	
1,1-Dichloroethane	ND	ug/l	0.75	0.21	1	
Chloroform	ND	ug/l	0.75	0.16	1	
Carbon tetrachloride	ND	ug/l	0.20	0.13	1	
1,2-Dichloropropane	ND	ug/l	1.0	0.14	1	
Dibromochloromethane	ND	ug/l	0.50	0.15	1	
1,1,2-Trichloroethane	ND	ug/l	0.75	0.14	1	
Tetrachloroethene	ND	ug/l	0.50	0.18	1	
Chlorobenzene	ND	ug/l	0.50	0.18	1	
Trichlorofluoromethane	ND	ug/l	1.0	0.16	1	
1,2-Dichloroethane	ND	ug/l	0.50	0.13	1	
1,1,1-Trichloroethane	ND	ug/l	0.50	0.16	1	
Bromodichloromethane	ND	ug/l	0.50	0.19	1	
trans-1,3-Dichloropropene	ND	ug/l	0.50	0.16	1	
cis-1,3-Dichloropropene	ND	ug/l	0.50	0.14	1	
1,3-Dichloropropene, Total	ND	ug/l	0.50	0.14	1	
1,1-Dichloropropene	ND	ug/l	1.0	0.17	1	
Bromoform	ND	ug/l	1.0	0.25	1	
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	0.17	1	
Benzene	ND	ug/l	0.20	0.16	1	
Toluene	ND	ug/l	0.75	0.16	1	
Ethylbenzene	ND	ug/l	0.50	0.17	1	
Chloromethane	ND	ug/l	2.0	0.18	1	
Bromomethane	ND	ug/l	1.0	0.26	1	
Vinyl chloride	ND	ug/l	0.20	0.07	1	
Chloroethane	ND	ug/l	1.0	0.13	1	
1,1-Dichloroethene	ND	ug/l	0.50	0.17	1	
trans-1,2-Dichloroethene	ND	ug/l	0.75	0.16	1	
1,2-Dichloroethene, Total	ND	ug/l	0.50	0.16	1	
Trichloroethene	ND	ug/l	0.20	0.18	1	



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-11	Date Collected:	04/05/17 13:45
Client ID:	SW-16	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2-Dichlorobenzene	ND		ug/l	1.0	0.18	1
1,3-Dichlorobenzene	ND		ug/l	1.0	0.19	1
1,4-Dichlorobenzene	ND		ug/l	1.0	0.19	1
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.33	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Dibromomethane	ND		ug/l	1.0	0.36	1
1,2,3-Trichloropropane	ND		ug/l	1.0	0.18	1
Dichlorodifluoromethane	ND		ug/l	2.0	0.24	1
Acetone	3.6	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	1.0	0.30	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1
2-Hexanone	ND		ug/l	5.0	0.52	1
Acrylonitrile	ND		ug/l	5.0	0.43	1
Bromochloromethane	ND		ug/l	1.0	0.15	1
Tetrahydrofuran	ND		ug/l	2.0	0.83	1
2,2-Dichloropropane	ND		ug/l	1.0	0.20	1
1,2-Dibromoethane	ND		ug/l	1.0	0.19	1
1,3-Dichloropropane	ND		ug/l	1.0	0.21	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1
Bromobenzene	ND		ug/l	1.0	0.15	1
n-Butylbenzene	ND		ug/l	0.50	0.19	1
sec-Butylbenzene	ND		ug/l	0.50	0.18	1
tert-Butylbenzene	ND		ug/l	1.0	0.18	1
o-Chlorotoluene	ND		ug/l	1.0	0.17	1
p-Chlorotoluene	ND		ug/l	1.0	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/l	1.0	0.35	1
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
p-Isopropyltoluene	ND		ug/l	0.50	0.19	1
Naphthalene	ND		ug/l	1.0	0.22	1
n-Propylbenzene	ND		ug/l	0.50	0.17	1
1,2,3-Trichlorobenzene	ND		ug/l	1.0	0.23	1
1,2,4-Trichlorobenzene	ND		ug/l	1.0	0.22	1
1,3,5-Trimethylbenzene	ND		ug/l	1.0	0.17	1
1,3,5-Trichlorobenzene	ND		ug/l	1.0	0.14	1



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-11	Date Collected:	04/05/17 13:45
Client ID:	SW-16	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2,4-Trimethylbenzene	ND		ug/l	1.0	0.19	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.18	1
Ethyl ether	0.44	J	ug/l	1.0	0.16	1
Diisopropyl Ether	ND		ug/l	1.0	0.42	1
Tert-Butyl Alcohol	2.6	J	ug/l	10	1.4	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	1.0	0.18	1
Tertiary-Amyl Methyl Ether	ND		ug/l	1.0	0.28	1
1,4-Dioxane	ND		ug/l	250	61.	1
Freon-113	ND		ug/l	10	0.15	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	117		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	109		70-130

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID: L1710571-12  
Client ID: LCH-3  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water  
Analytical Method: 1,8260C  
Analytical Date: 04/15/17 15:21  
Analyst: PD

Date Collected: 04/05/17 14:00  
Date Received: 04/05/17  
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Methylene chloride	ND	ug/l	3.0	0.68	1	
1,1-Dichloroethane	ND	ug/l	0.75	0.21	1	
Chloroform	ND	ug/l	0.75	0.16	1	
Carbon tetrachloride	ND	ug/l	0.20	0.13	1	
1,2-Dichloropropane	ND	ug/l	1.0	0.14	1	
Dibromochloromethane	ND	ug/l	0.50	0.15	1	
1,1,2-Trichloroethane	ND	ug/l	0.75	0.14	1	
Tetrachloroethene	ND	ug/l	0.50	0.18	1	
Chlorobenzene	ND	ug/l	0.50	0.18	1	
Trichlorofluoromethane	ND	ug/l	1.0	0.16	1	
1,2-Dichloroethane	ND	ug/l	0.50	0.13	1	
1,1,1-Trichloroethane	ND	ug/l	0.50	0.16	1	
Bromodichloromethane	ND	ug/l	0.50	0.19	1	
trans-1,3-Dichloropropene	ND	ug/l	0.50	0.16	1	
cis-1,3-Dichloropropene	ND	ug/l	0.50	0.14	1	
1,3-Dichloropropene, Total	ND	ug/l	0.50	0.14	1	
1,1-Dichloropropene	ND	ug/l	1.0	0.17	1	
Bromoform	ND	ug/l	1.0	0.25	1	
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	0.17	1	
Benzene	ND	ug/l	0.20	0.16	1	
Toluene	ND	ug/l	0.75	0.16	1	
Ethylbenzene	ND	ug/l	0.50	0.17	1	
Chloromethane	ND	ug/l	2.0	0.18	1	
Bromomethane	ND	ug/l	1.0	0.26	1	
Vinyl chloride	ND	ug/l	0.20	0.07	1	
Chloroethane	ND	ug/l	1.0	0.13	1	
1,1-Dichloroethene	ND	ug/l	0.50	0.17	1	
trans-1,2-Dichloroethene	ND	ug/l	0.75	0.16	1	
1,2-Dichloroethene, Total	ND	ug/l	0.50	0.16	1	
Trichloroethene	ND	ug/l	0.20	0.18	1	



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-12	Date Collected:	04/05/17 14:00
Client ID:	LCH-3	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2-Dichlorobenzene	ND	ug/l	1.0	0.18	1	
1,3-Dichlorobenzene	ND	ug/l	1.0	0.19	1	
1,4-Dichlorobenzene	ND	ug/l	1.0	0.19	1	
Methyl tert butyl ether	ND	ug/l	1.0	0.17	1	
p/m-Xylene	ND	ug/l	1.0	0.33	1	
o-Xylene	ND	ug/l	1.0	0.33	1	
Xylenes, Total	ND	ug/l	1.0	0.33	1	
cis-1,2-Dichloroethene	ND	ug/l	0.50	0.19	1	
Dibromomethane	ND	ug/l	1.0	0.36	1	
1,2,3-Trichloropropane	ND	ug/l	1.0	0.18	1	
Dichlorodifluoromethane	ND	ug/l	2.0	0.24	1	
Acetone	ND	ug/l	5.0	1.5	1	
Carbon disulfide	ND	ug/l	1.0	0.30	1	
2-Butanone	ND	ug/l	5.0	1.9	1	
4-Methyl-2-pentanone	ND	ug/l	5.0	0.42	1	
2-Hexanone	ND	ug/l	5.0	0.52	1	
Acrylonitrile	ND	ug/l	5.0	0.43	1	
Bromochloromethane	ND	ug/l	1.0	0.15	1	
Tetrahydrofuran	ND	ug/l	2.0	0.83	1	
2,2-Dichloropropane	ND	ug/l	1.0	0.20	1	
1,2-Dibromoethane	ND	ug/l	1.0	0.19	1	
1,3-Dichloropropane	ND	ug/l	1.0	0.21	1	
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	0.16	1	
Bromobenzene	ND	ug/l	1.0	0.15	1	
n-Butylbenzene	ND	ug/l	0.50	0.19	1	
sec-Butylbenzene	ND	ug/l	0.50	0.18	1	
tert-Butylbenzene	ND	ug/l	1.0	0.18	1	
o-Chlorotoluene	ND	ug/l	1.0	0.17	1	
p-Chlorotoluene	ND	ug/l	1.0	0.18	1	
1,2-Dibromo-3-chloropropane	ND	ug/l	1.0	0.35	1	
Hexachlorobutadiene	ND	ug/l	0.50	0.22	1	
Isopropylbenzene	ND	ug/l	0.50	0.19	1	
p-Isopropyltoluene	ND	ug/l	0.50	0.19	1	
Naphthalene	ND	ug/l	1.0	0.22	1	
n-Propylbenzene	ND	ug/l	0.50	0.17	1	
1,2,3-Trichlorobenzene	ND	ug/l	1.0	0.23	1	
1,2,4-Trichlorobenzene	ND	ug/l	1.0	0.22	1	
1,3,5-Trimethylbenzene	ND	ug/l	1.0	0.17	1	
1,3,5-Trichlorobenzene	ND	ug/l	1.0	0.14	1	



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-12	Date Collected:	04/05/17 14:00
Client ID:	LCH-3	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2,4-Trimethylbenzene	ND	ug/l	1.0	0.19	1	
trans-1,4-Dichloro-2-butene	ND	ug/l	2.5	0.18	1	
Ethyl ether	ND	ug/l	1.0	0.16	1	
Diisopropyl Ether	ND	ug/l	1.0	0.42	1	
Tert-Butyl Alcohol	ND	ug/l	10	1.4	1	
Ethyl-Tert-Butyl-Ether	ND	ug/l	1.0	0.18	1	
Tertiary-Amyl Methyl Ether	ND	ug/l	1.0	0.28	1	
1,4-Dioxane	ND	ug/l	250	61.	1	
Freon-113	ND	ug/l	10	0.15	1	

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	117		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	110		70-130

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID: L1710571-13  
Client ID: LCH-5  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water  
Analytical Method: 1,8260C  
Analytical Date: 04/15/17 15:44  
Analyst: PD

Date Collected: 04/05/17 11:15  
Date Received: 04/05/17  
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Methylene chloride	ND	ug/l	3.0	0.68	1	
1,1-Dichloroethane	ND	ug/l	0.75	0.21	1	
Chloroform	ND	ug/l	0.75	0.16	1	
Carbon tetrachloride	ND	ug/l	0.20	0.13	1	
1,2-Dichloropropane	ND	ug/l	1.0	0.14	1	
Dibromochloromethane	ND	ug/l	0.50	0.15	1	
1,1,2-Trichloroethane	ND	ug/l	0.75	0.14	1	
Tetrachloroethene	ND	ug/l	0.50	0.18	1	
Chlorobenzene	ND	ug/l	0.50	0.18	1	
Trichlorofluoromethane	ND	ug/l	1.0	0.16	1	
1,2-Dichloroethane	ND	ug/l	0.50	0.13	1	
1,1,1-Trichloroethane	ND	ug/l	0.50	0.16	1	
Bromodichloromethane	ND	ug/l	0.50	0.19	1	
trans-1,3-Dichloropropene	ND	ug/l	0.50	0.16	1	
cis-1,3-Dichloropropene	ND	ug/l	0.50	0.14	1	
1,3-Dichloropropene, Total	ND	ug/l	0.50	0.14	1	
1,1-Dichloropropene	ND	ug/l	1.0	0.17	1	
Bromoform	ND	ug/l	1.0	0.25	1	
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	0.17	1	
Benzene	ND	ug/l	0.20	0.16	1	
Toluene	ND	ug/l	0.75	0.16	1	
Ethylbenzene	ND	ug/l	0.50	0.17	1	
Chloromethane	ND	ug/l	2.0	0.18	1	
Bromomethane	ND	ug/l	1.0	0.26	1	
Vinyl chloride	ND	ug/l	0.20	0.07	1	
Chloroethane	ND	ug/l	1.0	0.13	1	
1,1-Dichloroethene	ND	ug/l	0.50	0.17	1	
trans-1,2-Dichloroethene	ND	ug/l	0.75	0.16	1	
1,2-Dichloroethene, Total	ND	ug/l	0.50	0.16	1	
Trichloroethene	ND	ug/l	0.20	0.18	1	



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-13	Date Collected:	04/05/17 11:15
Client ID:	LCH-5	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2-Dichlorobenzene	ND	ug/l	1.0	0.18	1	
1,3-Dichlorobenzene	ND	ug/l	1.0	0.19	1	
1,4-Dichlorobenzene	ND	ug/l	1.0	0.19	1	
Methyl tert butyl ether	ND	ug/l	1.0	0.17	1	
p/m-Xylene	ND	ug/l	1.0	0.33	1	
o-Xylene	ND	ug/l	1.0	0.33	1	
Xylenes, Total	ND	ug/l	1.0	0.33	1	
cis-1,2-Dichloroethene	ND	ug/l	0.50	0.19	1	
Dibromomethane	ND	ug/l	1.0	0.36	1	
1,2,3-Trichloropropane	ND	ug/l	1.0	0.18	1	
Dichlorodifluoromethane	ND	ug/l	2.0	0.24	1	
Acetone	ND	ug/l	5.0	1.5	1	
Carbon disulfide	ND	ug/l	1.0	0.30	1	
2-Butanone	ND	ug/l	5.0	1.9	1	
4-Methyl-2-pentanone	ND	ug/l	5.0	0.42	1	
2-Hexanone	ND	ug/l	5.0	0.52	1	
Acrylonitrile	ND	ug/l	5.0	0.43	1	
Bromochloromethane	ND	ug/l	1.0	0.15	1	
Tetrahydrofuran	ND	ug/l	2.0	0.83	1	
2,2-Dichloropropane	ND	ug/l	1.0	0.20	1	
1,2-Dibromoethane	ND	ug/l	1.0	0.19	1	
1,3-Dichloropropane	ND	ug/l	1.0	0.21	1	
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	0.16	1	
Bromobenzene	ND	ug/l	1.0	0.15	1	
n-Butylbenzene	ND	ug/l	0.50	0.19	1	
sec-Butylbenzene	ND	ug/l	0.50	0.18	1	
tert-Butylbenzene	ND	ug/l	1.0	0.18	1	
o-Chlorotoluene	ND	ug/l	1.0	0.17	1	
p-Chlorotoluene	ND	ug/l	1.0	0.18	1	
1,2-Dibromo-3-chloropropane	ND	ug/l	1.0	0.35	1	
Hexachlorobutadiene	ND	ug/l	0.50	0.22	1	
Isopropylbenzene	ND	ug/l	0.50	0.19	1	
p-Isopropyltoluene	ND	ug/l	0.50	0.19	1	
Naphthalene	ND	ug/l	1.0	0.22	1	
n-Propylbenzene	ND	ug/l	0.50	0.17	1	
1,2,3-Trichlorobenzene	ND	ug/l	1.0	0.23	1	
1,2,4-Trichlorobenzene	ND	ug/l	1.0	0.22	1	
1,3,5-Trimethylbenzene	ND	ug/l	1.0	0.17	1	
1,3,5-Trichlorobenzene	ND	ug/l	1.0	0.14	1	



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-13	Date Collected:	04/05/17 11:15
Client ID:	LCH-5	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2,4-Trimethylbenzene	ND	ug/l	1.0	0.19	1	
trans-1,4-Dichloro-2-butene	ND	ug/l	2.5	0.18	1	
Ethyl ether	ND	ug/l	1.0	0.16	1	
Diisopropyl Ether	ND	ug/l	1.0	0.42	1	
Tert-Butyl Alcohol	ND	ug/l	10	1.4	1	
Ethyl-Tert-Butyl-Ether	ND	ug/l	1.0	0.18	1	
Tertiary-Amyl Methyl Ether	ND	ug/l	1.0	0.28	1	
1,4-Dioxane	ND	ug/l	250	61.	1	
Freon-113	ND	ug/l	10	0.15	1	

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	121		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	110		70-130

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID: L1710571-14  
Client ID: DUP-1  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water  
Analytical Method: 1,8260C  
Analytical Date: 04/15/17 16:07  
Analyst: PD

Date Collected: 04/05/17 11:56  
Date Received: 04/05/17  
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Methylene chloride	ND		ug/l	3.0	0.68	1
1,1-Dichloroethane	9.2		ug/l	0.75	0.21	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.20	0.13	1
1,2-Dichloropropane	0.84	J	ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	0.93		ug/l	0.50	0.18	1
Chlorobenzene	3.7		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	1.0	0.16	1
1,2-Dichloroethane	0.29	J	ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	1.0	0.17	1
Bromoform	ND		ug/l	1.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	1.0		ug/l	0.20	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.0	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	6.2		ug/l	0.20	0.07	1
Chloroethane	1.0		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	0.64	J	ug/l	0.75	0.16	1
1,2-Dichloroethene, Total	71	J	ug/l	0.50	0.16	1
Trichloroethene	2.2		ug/l	0.20	0.18	1



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-14	Date Collected:	04/05/17 11:56
Client ID:	DUP-1	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2-Dichlorobenzene	ND		ug/l	1.0	0.18	1
1,3-Dichlorobenzene	ND		ug/l	1.0	0.19	1
1,4-Dichlorobenzene	3.2		ug/l	1.0	0.19	1
Methyl tert butyl ether	ND		ug/l	1.0	0.17	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.33	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
cis-1,2-Dichloroethene	70		ug/l	0.50	0.19	1
Dibromomethane	ND		ug/l	1.0	0.36	1
1,2,3-Trichloropropane	ND		ug/l	1.0	0.18	1
Dichlorodifluoromethane	1.7	J	ug/l	2.0	0.24	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	1.0	0.30	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1
2-Hexanone	ND		ug/l	5.0	0.52	1
Acrylonitrile	ND		ug/l	5.0	0.43	1
Bromochloromethane	ND		ug/l	1.0	0.15	1
Tetrahydrofuran	ND		ug/l	2.0	0.83	1
2,2-Dichloropropane	ND		ug/l	1.0	0.20	1
1,2-Dibromoethane	ND		ug/l	1.0	0.19	1
1,3-Dichloropropane	ND		ug/l	1.0	0.21	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1
Bromobenzene	ND		ug/l	1.0	0.15	1
n-Butylbenzene	ND		ug/l	0.50	0.19	1
sec-Butylbenzene	ND		ug/l	0.50	0.18	1
tert-Butylbenzene	ND		ug/l	1.0	0.18	1
o-Chlorotoluene	ND		ug/l	1.0	0.17	1
p-Chlorotoluene	ND		ug/l	1.0	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/l	1.0	0.35	1
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
p-Isopropyltoluene	ND		ug/l	0.50	0.19	1
Naphthalene	ND		ug/l	1.0	0.22	1
n-Propylbenzene	ND		ug/l	0.50	0.17	1
1,2,3-Trichlorobenzene	ND		ug/l	1.0	0.23	1
1,2,4-Trichlorobenzene	ND		ug/l	1.0	0.22	1
1,3,5-Trimethylbenzene	ND		ug/l	1.0	0.17	1
1,3,5-Trichlorobenzene	ND		ug/l	1.0	0.14	1

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-14	Date Collected:	04/05/17 11:56
Client ID:	DUP-1	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2,4-Trimethylbenzene	ND	ug/l	1.0	0.19	1	
trans-1,4-Dichloro-2-butene	ND	ug/l	2.5	0.18	1	
Ethyl ether	3.8	ug/l	1.0	0.16	1	
Diisopropyl Ether	ND	ug/l	1.0	0.42	1	
Tert-Butyl Alcohol	ND	ug/l	10	1.4	1	
Ethyl-Tert-Butyl-Ether	ND	ug/l	1.0	0.18	1	
Tertiary-Amyl Methyl Ether	ND	ug/l	1.0	0.28	1	
1,4-Dioxane	ND	ug/l	250	61.	1	
Freon-113	ND	ug/l	10	0.15	1	

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	117		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	109		70-130

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-14	Date Collected:	04/05/17 11:56
Client ID:	DUP-1	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 504.1
Analytical Method:	14,504.1	Extraction Date:	04/11/17 12:13
Analytical Date:	04/11/17 17:56		
Analyst:	NS		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
<b>Microextractables by GC - Westborough Lab</b>							
1,2-Dibromoethane	ND		ug/l	0.011	0.004	1	A
1,2-Dibromo-3-chloropropane	ND		ug/l	0.011	0.005	1	A

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-15	Date Collected:	04/05/17 15:15
Client ID:	EQUIPMENT BLANK	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	04/07/17 14:39		
Analyst:	MAB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Methylene chloride	ND	ug/l	3.0	0.68	1	
1,1-Dichloroethane	ND	ug/l	0.75	0.21	1	
Chloroform	ND	ug/l	0.75	0.16	1	
Carbon tetrachloride	ND	ug/l	0.20	0.13	1	
1,2-Dichloropropane	ND	ug/l	1.0	0.14	1	
Dibromochloromethane	ND	ug/l	0.50	0.15	1	
1,1,2-Trichloroethane	ND	ug/l	0.75	0.14	1	
Tetrachloroethene	ND	ug/l	0.50	0.18	1	
Chlorobenzene	ND	ug/l	0.50	0.18	1	
Trichlorofluoromethane	ND	ug/l	1.0	0.16	1	
1,2-Dichloroethane	ND	ug/l	0.50	0.13	1	
1,1,1-Trichloroethane	ND	ug/l	0.50	0.16	1	
Bromodichloromethane	ND	ug/l	0.50	0.19	1	
trans-1,3-Dichloropropene	ND	ug/l	0.50	0.16	1	
cis-1,3-Dichloropropene	ND	ug/l	0.50	0.14	1	
1,3-Dichloropropene, Total	ND	ug/l	0.50	0.14	1	
1,1-Dichloropropene	ND	ug/l	1.0	0.17	1	
Bromoform	ND	ug/l	1.0	0.25	1	
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	0.17	1	
Benzene	ND	ug/l	0.20	0.16	1	
Toluene	ND	ug/l	0.75	0.16	1	
Ethylbenzene	ND	ug/l	0.50	0.17	1	
Chloromethane	ND	ug/l	2.0	0.18	1	
Bromomethane	ND	ug/l	1.0	0.26	1	
Vinyl chloride	ND	ug/l	0.20	0.07	1	
Chloroethane	ND	ug/l	1.0	0.13	1	
1,1-Dichloroethene	ND	ug/l	0.50	0.17	1	
trans-1,2-Dichloroethene	ND	ug/l	0.75	0.16	1	
1,2-Dichloroethene, Total	ND	ug/l	0.50	0.16	1	
Trichloroethene	ND	ug/l	0.20	0.18	1	



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-15	Date Collected:	04/05/17 15:15
Client ID:	EQUIPMENT BLANK	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2-Dichlorobenzene	ND	ug/l	1.0	0.18	1	
1,3-Dichlorobenzene	ND	ug/l	1.0	0.19	1	
1,4-Dichlorobenzene	ND	ug/l	1.0	0.19	1	
Methyl tert butyl ether	ND	ug/l	1.0	0.17	1	
p/m-Xylene	ND	ug/l	1.0	0.33	1	
o-Xylene	ND	ug/l	1.0	0.33	1	
Xylenes, Total	ND	ug/l	1.0	0.33	1	
cis-1,2-Dichloroethene	ND	ug/l	0.50	0.19	1	
Dibromomethane	ND	ug/l	1.0	0.36	1	
1,2,3-Trichloropropane	ND	ug/l	1.0	0.18	1	
Dichlorodifluoromethane	ND	ug/l	2.0	0.24	1	
Acetone	ND	ug/l	5.0	1.5	1	
Carbon disulfide	ND	ug/l	1.0	0.30	1	
2-Butanone	ND	ug/l	5.0	1.9	1	
4-Methyl-2-pentanone	ND	ug/l	5.0	0.42	1	
2-Hexanone	ND	ug/l	5.0	0.52	1	
Acrylonitrile	ND	ug/l	5.0	0.43	1	
Bromochloromethane	ND	ug/l	1.0	0.15	1	
Tetrahydrofuran	ND	ug/l	2.0	0.83	1	
2,2-Dichloropropane	ND	ug/l	1.0	0.20	1	
1,2-Dibromoethane	ND	ug/l	1.0	0.19	1	
1,3-Dichloropropane	ND	ug/l	1.0	0.21	1	
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	0.16	1	
Bromobenzene	ND	ug/l	1.0	0.15	1	
n-Butylbenzene	ND	ug/l	0.50	0.19	1	
sec-Butylbenzene	ND	ug/l	0.50	0.18	1	
tert-Butylbenzene	ND	ug/l	1.0	0.18	1	
o-Chlorotoluene	ND	ug/l	1.0	0.17	1	
p-Chlorotoluene	ND	ug/l	1.0	0.18	1	
1,2-Dibromo-3-chloropropane	ND	ug/l	1.0	0.35	1	
Hexachlorobutadiene	ND	ug/l	0.50	0.22	1	
Isopropylbenzene	ND	ug/l	0.50	0.19	1	
p-Isopropyltoluene	ND	ug/l	0.50	0.19	1	
Naphthalene	ND	ug/l	1.0	0.22	1	
n-Propylbenzene	ND	ug/l	0.50	0.17	1	
1,2,3-Trichlorobenzene	ND	ug/l	1.0	0.23	1	
1,2,4-Trichlorobenzene	ND	ug/l	1.0	0.22	1	
1,3,5-Trimethylbenzene	ND	ug/l	1.0	0.17	1	
1,3,5-Trichlorobenzene	ND	ug/l	1.0	0.14	1	



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-15	Date Collected:	04/05/17 15:15
Client ID:	EQUIPMENT BLANK	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2,4-Trimethylbenzene	ND	ug/l	1.0	0.19	1	
trans-1,4-Dichloro-2-butene	ND	ug/l	2.5	0.18	1	
Ethyl ether	ND	ug/l	1.0	0.16	1	
Diisopropyl Ether	ND	ug/l	1.0	0.42	1	
Tert-Butyl Alcohol	ND	ug/l	10	1.4	1	
Ethyl-Tert-Butyl-Ether	ND	ug/l	1.0	0.18	1	
Tertiary-Amyl Methyl Ether	ND	ug/l	1.0	0.28	1	
1,4-Dioxane	ND	ug/l	250	61.	1	
Freon-113	ND	ug/l	10	0.15	1	

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	85		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	90		70-130

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-15	Date Collected:	04/05/17 15:15
Client ID:	EQUIPMENT BLANK	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 504.1
Analytical Method:	14,504.1	Extraction Date:	04/11/17 12:13
Analytical Date:	04/11/17 18:12		
Analyst:	NS		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
<b>Microextractables by GC - Westborough Lab</b>							
1,2-Dibromoethane	ND		ug/l	0.011	0.004	1	A
1,2-Dibromo-3-chloropropane	ND		ug/l	0.011	0.005	1	A

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-16	Date Collected:	04/05/17 00:00
Client ID:	TRIP BLANK	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified
Matrix:	Water		
Analytical Method:	1,8260C		
Analytical Date:	04/07/17 15:13		
Analyst:	MAB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
Methylene chloride	ND	ug/l	3.0	0.68	1	
1,1-Dichloroethane	ND	ug/l	0.75	0.21	1	
Chloroform	ND	ug/l	0.75	0.16	1	
Carbon tetrachloride	ND	ug/l	0.20	0.13	1	
1,2-Dichloropropane	ND	ug/l	1.0	0.14	1	
Dibromochloromethane	ND	ug/l	0.50	0.15	1	
1,1,2-Trichloroethane	ND	ug/l	0.75	0.14	1	
Tetrachloroethene	ND	ug/l	0.50	0.18	1	
Chlorobenzene	ND	ug/l	0.50	0.18	1	
Trichlorofluoromethane	ND	ug/l	1.0	0.16	1	
1,2-Dichloroethane	ND	ug/l	0.50	0.13	1	
1,1,1-Trichloroethane	ND	ug/l	0.50	0.16	1	
Bromodichloromethane	ND	ug/l	0.50	0.19	1	
trans-1,3-Dichloropropene	ND	ug/l	0.50	0.16	1	
cis-1,3-Dichloropropene	ND	ug/l	0.50	0.14	1	
1,3-Dichloropropene, Total	ND	ug/l	0.50	0.14	1	
1,1-Dichloropropene	ND	ug/l	1.0	0.17	1	
Bromoform	ND	ug/l	1.0	0.25	1	
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	0.17	1	
Benzene	ND	ug/l	0.20	0.16	1	
Toluene	ND	ug/l	0.75	0.16	1	
Ethylbenzene	ND	ug/l	0.50	0.17	1	
Chloromethane	ND	ug/l	2.0	0.18	1	
Bromomethane	ND	ug/l	1.0	0.26	1	
Vinyl chloride	ND	ug/l	0.20	0.07	1	
Chloroethane	ND	ug/l	1.0	0.13	1	
1,1-Dichloroethene	ND	ug/l	0.50	0.17	1	
trans-1,2-Dichloroethene	ND	ug/l	0.75	0.16	1	
1,2-Dichloroethene, Total	ND	ug/l	0.50	0.16	1	
Trichloroethene	ND	ug/l	0.20	0.18	1	



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-16	Date Collected:	04/05/17 00:00
Client ID:	TRIP BLANK	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2-Dichlorobenzene	ND	ug/l	1.0	0.18	1	
1,3-Dichlorobenzene	ND	ug/l	1.0	0.19	1	
1,4-Dichlorobenzene	ND	ug/l	1.0	0.19	1	
Methyl tert butyl ether	ND	ug/l	1.0	0.17	1	
p/m-Xylene	ND	ug/l	1.0	0.33	1	
o-Xylene	ND	ug/l	1.0	0.33	1	
Xylenes, Total	ND	ug/l	1.0	0.33	1	
cis-1,2-Dichloroethene	ND	ug/l	0.50	0.19	1	
Dibromomethane	ND	ug/l	1.0	0.36	1	
1,2,3-Trichloropropane	ND	ug/l	1.0	0.18	1	
Dichlorodifluoromethane	ND	ug/l	2.0	0.24	1	
Acetone	ND	ug/l	5.0	1.5	1	
Carbon disulfide	ND	ug/l	1.0	0.30	1	
2-Butanone	ND	ug/l	5.0	1.9	1	
4-Methyl-2-pentanone	ND	ug/l	5.0	0.42	1	
2-Hexanone	ND	ug/l	5.0	0.52	1	
Acrylonitrile	ND	ug/l	5.0	0.43	1	
Bromochloromethane	ND	ug/l	1.0	0.15	1	
Tetrahydrofuran	ND	ug/l	2.0	0.83	1	
2,2-Dichloropropane	ND	ug/l	1.0	0.20	1	
1,2-Dibromoethane	ND	ug/l	1.0	0.19	1	
1,3-Dichloropropane	ND	ug/l	1.0	0.21	1	
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	0.16	1	
Bromobenzene	ND	ug/l	1.0	0.15	1	
n-Butylbenzene	ND	ug/l	0.50	0.19	1	
sec-Butylbenzene	ND	ug/l	0.50	0.18	1	
tert-Butylbenzene	ND	ug/l	1.0	0.18	1	
o-Chlorotoluene	ND	ug/l	1.0	0.17	1	
p-Chlorotoluene	ND	ug/l	1.0	0.18	1	
1,2-Dibromo-3-chloropropane	ND	ug/l	1.0	0.35	1	
Hexachlorobutadiene	ND	ug/l	0.50	0.22	1	
Isopropylbenzene	ND	ug/l	0.50	0.19	1	
p-Isopropyltoluene	ND	ug/l	0.50	0.19	1	
Naphthalene	ND	ug/l	1.0	0.22	1	
n-Propylbenzene	ND	ug/l	0.50	0.17	1	
1,2,3-Trichlorobenzene	ND	ug/l	1.0	0.23	1	
1,2,4-Trichlorobenzene	ND	ug/l	1.0	0.22	1	
1,3,5-Trimethylbenzene	ND	ug/l	1.0	0.17	1	
1,3,5-Trichlorobenzene	ND	ug/l	1.0	0.14	1	



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-16	Date Collected:	04/05/17 00:00
Client ID:	TRIP BLANK	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>Volatile Organics by GC/MS - Westborough Lab</b>						
1,2,4-Trimethylbenzene	ND	ug/l	1.0	0.19	1	
trans-1,4-Dichloro-2-butene	ND	ug/l	2.5	0.18	1	
Ethyl ether	ND	ug/l	1.0	0.16	1	
Diisopropyl Ether	ND	ug/l	1.0	0.42	1	
Tert-Butyl Alcohol	ND	ug/l	10	1.4	1	
Ethyl-Tert-Butyl-Ether	ND	ug/l	1.0	0.18	1	
Tertiary-Amyl Methyl Ether	ND	ug/l	1.0	0.28	1	
1,4-Dioxane	ND	ug/l	250	61.	1	
Freon-113	ND	ug/l	10	0.15	1	

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	88		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	85		70-130
Dibromofluoromethane	95		70-130

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID: L1710571-16  
Client ID: TRIP BLANK  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water  
Analytical Method: 14,504.1  
Analytical Date: 04/11/17 18:27  
Analyst: NS

Date Collected: 04/05/17 00:00  
Date Received: 04/05/17  
Field Prep: Not Specified  
Extraction Method:EPA 504.1  
Extraction Date: 04/11/17 12:13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
<b>Microextractables by GC - Westborough Lab</b>							
1,2-Dibromoethane	ND		ug/l	0.011	0.004	1	A
1,2-Dibromo-3-chloropropane	ND		ug/l	0.011	0.005	1	A

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260C  
Analytical Date: 04/07/17 05:46  
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 15-16 Batch: WG992566-5					
Methylene chloride	ND	ug/l	3.0	0.68	
1,1-Dichloroethane	ND	ug/l	0.75	0.21	
Chloroform	ND	ug/l	0.75	0.16	
Carbon tetrachloride	ND	ug/l	0.20	0.13	
1,2-Dichloropropane	ND	ug/l	1.0	0.14	
Dibromochloromethane	ND	ug/l	0.50	0.15	
1,1,2-Trichloroethane	ND	ug/l	0.75	0.14	
Tetrachloroethene	ND	ug/l	0.50	0.18	
Chlorobenzene	ND	ug/l	0.50	0.18	
Trichlorofluoromethane	ND	ug/l	1.0	0.16	
1,2-Dichloroethane	ND	ug/l	0.50	0.13	
1,1,1-Trichloroethane	ND	ug/l	0.50	0.16	
Bromodichloromethane	ND	ug/l	0.50	0.19	
trans-1,3-Dichloropropene	ND	ug/l	0.50	0.16	
cis-1,3-Dichloropropene	ND	ug/l	0.50	0.14	
1,3-Dichloropropene, Total	ND	ug/l	0.50	0.14	
1,1-Dichloropropene	ND	ug/l	1.0	0.17	
Bromoform	ND	ug/l	1.0	0.25	
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	0.17	
Benzene	ND	ug/l	0.20	0.16	
Toluene	ND	ug/l	0.75	0.16	
Ethylbenzene	ND	ug/l	0.50	0.17	
Chloromethane	ND	ug/l	2.0	0.18	
Bromomethane	ND	ug/l	1.0	0.26	
Vinyl chloride	ND	ug/l	0.20	0.07	
Chloroethane	ND	ug/l	1.0	0.13	
1,1-Dichloroethene	ND	ug/l	0.50	0.17	
trans-1,2-Dichloroethene	ND	ug/l	0.75	0.16	
1,2-Dichloroethene, Total	ND	ug/l	0.50	0.16	



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260C  
Analytical Date: 04/07/17 05:46  
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 15-16 Batch: WG992566-5					
Trichloroethene	ND	ug/l	0.20	0.18	
1,2-Dichlorobenzene	ND	ug/l	1.0	0.18	
1,3-Dichlorobenzene	ND	ug/l	1.0	0.19	
1,4-Dichlorobenzene	ND	ug/l	1.0	0.19	
Methyl tert butyl ether	ND	ug/l	1.0	0.17	
p/m-Xylene	ND	ug/l	1.0	0.33	
o-Xylene	ND	ug/l	1.0	0.33	
Xylenes, Total	ND	ug/l	1.0	0.33	
cis-1,2-Dichloroethene	ND	ug/l	0.50	0.19	
Dibromomethane	ND	ug/l	1.0	0.36	
1,2,3-Trichloropropane	ND	ug/l	1.0	0.18	
Dichlorodifluoromethane	ND	ug/l	2.0	0.24	
Acetone	ND	ug/l	5.0	1.5	
Carbon disulfide	ND	ug/l	1.0	0.30	
2-Butanone	ND	ug/l	5.0	1.9	
4-Methyl-2-pentanone	ND	ug/l	5.0	0.42	
2-Hexanone	ND	ug/l	5.0	0.52	
Acrylonitrile	ND	ug/l	5.0	0.43	
Bromochloromethane	ND	ug/l	1.0	0.15	
Tetrahydrofuran	ND	ug/l	2.0	0.83	
2,2-Dichloropropane	ND	ug/l	1.0	0.20	
1,2-Dibromoethane	ND	ug/l	1.0	0.19	
1,3-Dichloropropane	ND	ug/l	1.0	0.21	
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	0.16	
Bromobenzene	ND	ug/l	1.0	0.15	
n-Butylbenzene	ND	ug/l	0.50	0.19	
sec-Butylbenzene	ND	ug/l	0.50	0.18	
tert-Butylbenzene	ND	ug/l	1.0	0.18	
o-Chlorotoluene	ND	ug/l	1.0	0.17	



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C  
Analytical Date: 04/07/17 05:46  
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 15-16 Batch: WG992566-5					
p-Chlorotoluene	ND		ug/l	1.0	0.18
1,2-Dibromo-3-chloropropane	ND		ug/l	1.0	0.35
Hexachlorobutadiene	ND		ug/l	0.50	0.22
Isopropylbenzene	ND		ug/l	0.50	0.19
p-Isopropyltoluene	ND		ug/l	0.50	0.19
Naphthalene	ND		ug/l	1.0	0.22
n-Propylbenzene	ND		ug/l	0.50	0.17
1,2,3-Trichlorobenzene	ND		ug/l	1.0	0.23
1,2,4-Trichlorobenzene	ND		ug/l	1.0	0.22
1,3,5-Trimethylbenzene	ND		ug/l	1.0	0.17
1,3,5-Trichlorobenzene	ND		ug/l	1.0	0.14
1,2,4-Trimethylbenzene	ND		ug/l	1.0	0.19
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.18
Ethyl ether	ND		ug/l	1.0	0.16
Diisopropyl Ether	ND		ug/l	1.0	0.42
Tert-Butyl Alcohol	ND		ug/l	10	1.4
Ethyl-Tert-Butyl-Ether	ND		ug/l	1.0	0.18
Tertiary-Amyl Methyl Ether	ND		ug/l	1.0	0.28
1,4-Dioxane	ND		ug/l	250	61.
Freon-113	ND		ug/l	10	0.15

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	92		70-130



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 14,504.1  
Analytical Date: 04/11/17 14:46  
Analyst: NS

Extraction Method: EPA 504.1  
Extraction Date: 04/11/17 12:13

Parameter	Result	Qualifier	Units	RL	MDL
Microextractables by GC - Westborough Lab for sample(s): 01-07,14-16 Batch: WG993127-1					
1,2-Dibromoethane	ND		ug/l	0.010	0.004
1,2-Dibromo-3-chloropropane	ND		ug/l	0.010	0.005

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260C  
Analytical Date: 04/15/17 10:43  
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-14 Batch: WG994774-5					
Methylene chloride	ND	ug/l	3.0	0.68	
1,1-Dichloroethane	ND	ug/l	0.75	0.21	
Chloroform	ND	ug/l	0.75	0.16	
Carbon tetrachloride	ND	ug/l	0.20	0.13	
1,2-Dichloropropane	ND	ug/l	1.0	0.14	
Dibromochloromethane	ND	ug/l	0.50	0.15	
1,1,2-Trichloroethane	ND	ug/l	0.75	0.14	
Tetrachloroethene	ND	ug/l	0.50	0.18	
Chlorobenzene	ND	ug/l	0.50	0.18	
Trichlorofluoromethane	ND	ug/l	1.0	0.16	
1,2-Dichloroethane	ND	ug/l	0.50	0.13	
1,1,1-Trichloroethane	ND	ug/l	0.50	0.16	
Bromodichloromethane	ND	ug/l	0.50	0.19	
trans-1,3-Dichloropropene	ND	ug/l	0.50	0.16	
cis-1,3-Dichloropropene	ND	ug/l	0.50	0.14	
1,3-Dichloropropene, Total	ND	ug/l	0.50	0.14	
1,1-Dichloropropene	ND	ug/l	1.0	0.17	
Bromoform	ND	ug/l	1.0	0.25	
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	0.17	
Benzene	ND	ug/l	0.20	0.16	
Toluene	ND	ug/l	0.75	0.16	
Ethylbenzene	ND	ug/l	0.50	0.17	
Chloromethane	ND	ug/l	2.0	0.18	
Bromomethane	ND	ug/l	1.0	0.26	
Vinyl chloride	ND	ug/l	0.20	0.07	
Chloroethane	ND	ug/l	1.0	0.13	
1,1-Dichloroethene	ND	ug/l	0.50	0.17	
trans-1,2-Dichloroethene	ND	ug/l	0.75	0.16	
1,2-Dichloroethene, Total	ND	ug/l	0.50	0.16	



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C  
Analytical Date: 04/15/17 10:43  
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-14 Batch: WG994774-5					
Trichloroethene	ND	ug/l	0.20	0.18	
1,2-Dichlorobenzene	ND	ug/l	1.0	0.18	
1,3-Dichlorobenzene	ND	ug/l	1.0	0.19	
1,4-Dichlorobenzene	ND	ug/l	1.0	0.19	
Methyl tert butyl ether	ND	ug/l	1.0	0.17	
p/m-Xylene	ND	ug/l	1.0	0.33	
o-Xylene	ND	ug/l	1.0	0.33	
Xylenes, Total	ND	ug/l	1.0	0.33	
cis-1,2-Dichloroethene	ND	ug/l	0.50	0.19	
Dibromomethane	ND	ug/l	1.0	0.36	
1,2,3-Trichloropropane	ND	ug/l	1.0	0.18	
Dichlorodifluoromethane	ND	ug/l	2.0	0.24	
Acetone	ND	ug/l	5.0	1.5	
Carbon disulfide	ND	ug/l	1.0	0.30	
2-Butanone	ND	ug/l	5.0	1.9	
4-Methyl-2-pentanone	ND	ug/l	5.0	0.42	
2-Hexanone	ND	ug/l	5.0	0.52	
Acrylonitrile	ND	ug/l	5.0	0.43	
Bromochloromethane	ND	ug/l	1.0	0.15	
Tetrahydrofuran	ND	ug/l	2.0	0.83	
2,2-Dichloropropane	ND	ug/l	1.0	0.20	
1,2-Dibromoethane	ND	ug/l	1.0	0.19	
1,3-Dichloropropane	ND	ug/l	1.0	0.21	
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	0.16	
Bromobenzene	ND	ug/l	1.0	0.15	
n-Butylbenzene	ND	ug/l	0.50	0.19	
sec-Butylbenzene	ND	ug/l	0.50	0.18	
tert-Butylbenzene	ND	ug/l	1.0	0.18	
o-Chlorotoluene	ND	ug/l	1.0	0.17	



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C  
Analytical Date: 04/15/17 10:43  
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-14 Batch: WG994774-5					
p-Chlorotoluene	ND		ug/l	1.0	0.18
1,2-Dibromo-3-chloropropane	ND		ug/l	1.0	0.35
Hexachlorobutadiene	ND		ug/l	0.50	0.22
Isopropylbenzene	ND		ug/l	0.50	0.19
p-Isopropyltoluene	ND		ug/l	0.50	0.19
Naphthalene	0.75	J	ug/l	1.0	0.22
n-Propylbenzene	ND		ug/l	0.50	0.17
1,2,3-Trichlorobenzene	0.30	J	ug/l	1.0	0.23
1,2,4-Trichlorobenzene	ND		ug/l	1.0	0.22
1,3,5-Trimethylbenzene	ND		ug/l	1.0	0.17
1,3,5-Trichlorobenzene	ND		ug/l	1.0	0.14
1,2,4-Trimethylbenzene	ND		ug/l	1.0	0.19
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.18
Ethyl ether	ND		ug/l	1.0	0.16
Diisopropyl Ether	ND		ug/l	1.0	0.42
Tert-Butyl Alcohol	ND		ug/l	10	1.4
Ethyl-Tert-Butyl-Ether	ND		ug/l	1.0	0.18
Tertiary-Amyl Methyl Ether	ND		ug/l	1.0	0.28
1,4-Dioxane	ND		ug/l	250	61.
Freon-113	ND		ug/l	10	0.15

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	102		70-130



# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

<b>Parameter</b>	<i>LCS</i> <i>%Recovery</i>	<i>Qual</i>	<i>LCSD</i> <i>%Recovery</i>	<i>Qual</i>	<i>%Recovery</i> <i>Limits</i>	<i>RPD</i>	<i>Qual</i>	<i>RPD</i> <i>Limits</i>
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 15-16 Batch: WG992566-3 WG992566-4								
Methylene chloride	86		90		70-130	5		20
1,1-Dichloroethane	100		100		70-130	0		20
Chloroform	97		97		70-130	0		20
Carbon tetrachloride	96		96		63-132	0		20
1,2-Dichloropropane	110		110		70-130	0		20
Dibromochloromethane	110		110		63-130	0		20
1,1,2-Trichloroethane	130		130		70-130	0		20
Tetrachloroethene	120		110		70-130	9		20
Chlorobenzene	100		100		75-130	0		25
Trichlorofluoromethane	94		94		62-150	0		20
1,2-Dichloroethane	100		100		70-130	0		20
1,1,1-Trichloroethane	100		100		67-130	0		20
Bromodichloromethane	100		100		67-130	0		20
trans-1,3-Dichloropropene	120		110		70-130	9		20
cis-1,3-Dichloropropene	110		100		70-130	10		20
1,1-Dichloropropene	110		110		70-130	0		20
Bromoform	110		100		54-136	10		20
1,1,2,2-Tetrachloroethane	110		93		67-130	17		20
Benzene	110		110		70-130	0		25
Toluene	120		120		70-130	0		25
Ethylbenzene	99		97		70-130	2		20

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 15-16 Batch: WG992566-3 WG992566-4								
Chloromethane	87		90		64-130	3		20
Bromomethane	82		83		39-139	1		20
Vinyl chloride	100		100		55-140	0		20
Chloroethane	100		98		55-138	2		20
1,1-Dichloroethene	91		92		61-145	1		25
trans-1,2-Dichloroethene	88		96		70-130	9		20
Trichloroethene	100		100		70-130	0		25
1,2-Dichlorobenzene	100		100		70-130	0		20
1,3-Dichlorobenzene	100		96		70-130	4		20
1,4-Dichlorobenzene	100		100		70-130	0		20
Methyl tert butyl ether	94		98		63-130	4		20
p/m-Xylene	100		100		70-130	0		20
o-Xylene	95		90		70-130	5		20
cis-1,2-Dichloroethene	97		100		70-130	3		20
Dibromomethane	100		110		70-130	10		20
1,2,3-Trichloropropane	110		100		64-130	10		20
Dichlorodifluoromethane	86		83		36-147	4		20
Acetone	97		94		58-148	3		20
Carbon disulfide	85		88		51-130	3		20
2-Butanone	130		120		63-138	8		20
4-Methyl-2-pentanone	120		110		59-130	9		20

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 15-16 Batch: WG992566-3 WG992566-4								
2-Hexanone	110		110		57-130	0		20
Acrylonitrile	120		120		70-130	0		20
Bromochloromethane	100		100		70-130	0		20
Tetrahydrofuran	120		120		58-130	0		20
2,2-Dichloropropane	97		98		63-133	1		20
1,2-Dibromoethane	130		120		70-130	8		20
1,3-Dichloropropane	130		120		70-130	8		20
1,1,1,2-Tetrachloroethane	110		100		64-130	10		20
Bromobenzene	100		88		70-130	13		20
n-Butylbenzene	110		100		53-136	10		20
sec-Butylbenzene	93		90		70-130	3		20
tert-Butylbenzene	95		92		70-130	3		20
o-Chlorotoluene	95		90		70-130	5		20
p-Chlorotoluene	96		90		70-130	6		20
1,2-Dibromo-3-chloropropane	92		100		41-144	8		20
Hexachlorobutadiene	78		79		63-130	1		20
Isopropylbenzene	96		92		70-130	4		20
p-Isopropyltoluene	99		95		70-130	4		20
Naphthalene	120		120		70-130	0		20
n-Propylbenzene	99		93		69-130	6		20
1,2,3-Trichlorobenzene	130		120		70-130	8		20

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

<b>Parameter</b>	<i>LCS</i> <i>%Recovery</i>	<i>Qual</i>	<i>LCSD</i> <i>%Recovery</i>	<i>Qual</i>	<i>%Recovery</i> <i>Limits</i>	<i>RPD</i>	<i>Qual</i>	<i>RPD</i> <i>Limits</i>
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 15-16 Batch: WG992566-3 WG992566-4								
1,2,4-Trichlorobenzene	110		110		70-130	0		20
1,3,5-Trimethylbenzene	94		90		64-130	4		20
1,3,5-Trichlorobenzene	120		110		70-130	9		20
1,2,4-Trimethylbenzene	100		100		70-130	0		20
trans-1,4-Dichloro-2-butene	120		100		70-130	18		20
Ethyl ether	100		100		59-134	0		20
Disopropyl Ether	120		120		70-130	0		20
Tert-Butyl Alcohol	122		122		70-130	0		20
Ethyl-Tert-Butyl-Ether	110		110		70-130	0		20
Tertiary-Amyl Methyl Ether	110		110		66-130	0		20
1,4-Dioxane	110		112		56-162	2		20
Freon-113	93		91		70-130	2		20

<b>Surrogate</b>	<i>LCS</i> <i>%Recovery</i>	<i>Qual</i>	<i>LCSD</i> <i>%Recovery</i>	<i>Qual</i>	<b>Acceptance Criteria</b>
1,2-Dichloroethane-d4	90		93		70-130
Toluene-d8	107		107		70-130
4-Bromofluorobenzene	96		94		70-130
Dibromofluoromethane	94		94		70-130

**Lab Control Sample Analysis**  
**Batch Quality Control**

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

<b>Parameter</b>	<i>LCS</i> %Recovery	<i>LCSD</i> %Recovery	<i>%Recovery Limits</i>	<i>RPD</i>	<i>Qual</i>	<i>RPD Limits</i>	<i>Column</i>
	<i>Qual</i>	<i>Qual</i>				<i>Qual</i>	
Microextractables by GC - Westborough Lab Associated sample(s): 01-07,14-16 Batch: WG993127-2							
1,2-Dibromoethane	88	-	70-130	-	-	-	A
1,2-Dibromo-3-chloropropane	92	-	70-130	-	-	-	A

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

<b>Parameter</b>	<b>LCS</b>	<b>LCSD</b>	<b>%Recovery</b>		<b>RPD</b>	<b>RPD</b>	
	<b>%Recovery</b>	<b>Qual</b>	<b>%Recovery</b>	<b>Qual</b>	<b>Limits</b>	<b>Qual</b>	<b>Limits</b>
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-14 Batch: WG994774-3 WG994774-4							
Methylene chloride	97		96		70-130	1	20
1,1-Dichloroethane	110		100		70-130	10	20
Chloroform	100		100		70-130	0	20
Carbon tetrachloride	100		100		63-132	0	20
1,2-Dichloropropane	110		100		70-130	10	20
Dibromochloromethane	110		110		63-130	0	20
1,1,2-Trichloroethane	120		110		70-130	9	20
Tetrachloroethene	100		98		70-130	2	20
Chlorobenzene	100		97		75-130	3	25
Trichlorofluoromethane	88		86		62-150	2	20
1,2-Dichloroethane	110		100		70-130	10	20
1,1,1-Trichloroethane	100		98		67-130	2	20
Bromodichloromethane	100		100		67-130	0	20
trans-1,3-Dichloropropene	120		110		70-130	9	20
cis-1,3-Dichloropropene	110		110		70-130	0	20
1,1-Dichloropropene	100		100		70-130	0	20
Bromoform	100		100		54-136	0	20
1,1,2,2-Tetrachloroethane	120		110		67-130	9	20
Benzene	110		110		70-130	0	25
Toluene	110		110		70-130	0	25
Ethylbenzene	100		99		70-130	1	20

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-14 Batch: WG994774-3 WG994774-4								
Chloromethane	81		78		64-130	4		20
Bromomethane	62		64		39-139	3		20
Vinyl chloride	80		80		55-140	0		20
Chloroethane	89		89		55-138	0		20
1,1-Dichloroethene	100		98		61-145	2		25
trans-1,2-Dichloroethene	100		98		70-130	2		20
Trichloroethene	100		96		70-130	4		25
1,2-Dichlorobenzene	100		98		70-130	2		20
1,3-Dichlorobenzene	100		100		70-130	0		20
1,4-Dichlorobenzene	100		98		70-130	2		20
Methyl tert butyl ether	120		110		63-130	9		20
p/m-Xylene	110		90		70-130	20		20
o-Xylene	115		115		70-130	0		20
cis-1,2-Dichloroethene	100		100		70-130	0		20
Dibromomethane	110		100		70-130	10		20
1,2,3-Trichloropropane	120		120		64-130	0		20
Dichlorodifluoromethane	75		75		36-147	0		20
Acetone	140	Q	120		58-148	15		20
Carbon disulfide	100		99		51-130	1		20
2-Butanone	140	Q	130		63-138	7		20
4-Methyl-2-pentanone	100		100		59-130	0		20

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-14 Batch: WG994774-3 WG994774-4								
2-Hexanone	72		89		57-130	21	Q	20
Acrylonitrile	120		120		70-130	0		20
Bromochloromethane	100		100		70-130	0		20
Tetrahydrofuran	150	Q	140	Q	58-130	7		20
2,2-Dichloropropane	100		100		63-133	0		20
1,2-Dibromoethane	110		110		70-130	0		20
1,3-Dichloropropane	110		120		70-130	9		20
1,1,1,2-Tetrachloroethane	100		100		64-130	0		20
Bromobenzene	99		97		70-130	2		20
n-Butylbenzene	110		88		53-136	22	Q	20
sec-Butylbenzene	100		100		70-130	0		20
tert-Butylbenzene	100		100		70-130	0		20
o-Chlorotoluene	110		110		70-130	0		20
p-Chlorotoluene	100		100		70-130	0		20
1,2-Dibromo-3-chloropropane	93		80		41-144	15		20
Hexachlorobutadiene	98		92		63-130	6		20
Isopropylbenzene	100		100		70-130	0		20
p-Isopropyltoluene	98		96		70-130	2		20
Naphthalene	100		81		70-130	21	Q	20
n-Propylbenzene	110		100		69-130	10		20
1,2,3-Trichlorobenzene	140	Q	120		70-130	15		20

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

<b>Parameter</b>	<i>LCS</i> <i>%Recovery</i>	<i>Qual</i>	<i>LCSD</i> <i>%Recovery</i>	<i>Qual</i>	<i>%Recovery</i> <i>Limits</i>	<i>RPD</i>	<i>Qual</i>	<i>RPD</i> <i>Limits</i>
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-14 Batch: WG994774-3 WG994774-4								
1,2,4-Trichlorobenzene	110		94		70-130	16		20
1,3,5-Trimethylbenzene	100		100		64-130	0		20
1,3,5-Trichlorobenzene	100		87		70-130	14		20
1,2,4-Trimethylbenzene	110		100		70-130	10		20
trans-1,4-Dichloro-2-butene	110		100		70-130	10		20
Ethyl ether	110		98		59-134	12		20
Disopropyl Ether	120		110		70-130	9		20
Tert-Butyl Alcohol	152	Q	144	Q	70-130	5		20
Ethyl-Tert-Butyl-Ether	120		110		70-130	9		20
Tertiary-Amyl Methyl Ether	100		99		66-130	1		20
1,4-Dioxane	138		130		56-162	6		20
Freon-113	100		98		70-130	2		20

<b>Surrogate</b>	<i>LCS</i> <i>%Recovery</i>	<i>Qual</i>	<i>LCSD</i> <i>%Recovery</i>	<i>Qual</i>	<b>Acceptance Criteria</b>
1,2-Dichloroethane-d4	111		108		70-130
Toluene-d8	108		110		70-130
4-Bromofluorobenzene	103		104		70-130
Dibromofluoromethane	102		100		70-130

**Matrix Spike Analysis**  
**Batch Quality Control**

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD RPD Qual	RPD Qual	RPD Limits	Column
Microextractables by GC - Westborough Lab Associated sample(s): 01-07,14-16 QC Batch ID: WG993127-3 WG993127-4 QC Sample: L1710571-01 Client ID: MW-201													
1,2-Dibromoethane	ND	0.269	0.277	103		0.278	102		65-135	0	20	A	
1,2-Dibromo-3-chloropropane	ND	0.269	0.266	99		0.273	100		65-135	3	20	A	

# Matrix Spike Analysis

## Batch Quality Control

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-14 QC Batch ID: WG994774-6 WG994774-7 QC Sample: L1710571-01 Client ID: MW-201												
Methylene chloride	ND	10	11	110		11	110		70-130	0		20
1,1-Dichloroethane	ND	10	12	120		13	130		70-130	8		20
Chloroform	ND	10	12	120		12	120		70-130	0		20
Carbon tetrachloride	ND	10	12	120		13	130		63-132	8		20
1,2-Dichloropropane	ND	10	12	120		12	120		70-130	0		20
Dibromochloromethane	ND	10	11	110		12	120		63-130	9		20
1,1,2-Trichloroethane	ND	10	13	130		13	130		70-130	0		20
Tetrachloroethene	ND	10	10	100		11	110		70-130	10		20
Chlorobenzene	ND	10	11	110		11	110		75-130	0		25
Trichlorofluoromethane	ND	10	10	100		11	110		62-150	10		20
1,2-Dichloroethane	ND	10	12	120		13	130		70-130	8		20
1,1,1-Trichloroethane	ND	10	12	120		12	120		67-130	0		20
Bromodichloromethane	ND	10	12	120		12	120		67-130	0		20
trans-1,3-Dichloropropene	ND	10	11	110		12	120		70-130	9		20
cis-1,3-Dichloropropene	ND	10	10	100		11	110		70-130	10		20
1,1-Dichloropropene	ND	10	11	110		12	120		70-130	9		20
Bromoform	ND	10	11	110		11	110		54-136	0		20
1,1,2,2-Tetrachloroethane	ND	10	13	130		13	130		67-130	0		20
Benzene	ND	10	12	120		12	120		70-130	0		25
Toluene	ND	10	11	110		12	120		70-130	9		25
Ethylbenzene	ND	10	11	110		12	120		70-130	9		20

# Matrix Spike Analysis

## Batch Quality Control

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-14 QC Batch ID: WG994774-6 WG994774-7 QC Sample: L1710571-01 Client ID: MW-201												
Chloromethane	ND	10	6.2	62	Q	7.0	70		64-130	12		20
Bromomethane	ND	10	5.6	56		6.8	68		39-139	19		20
Vinyl chloride	ND	10	7.5	75		8.5	85		55-140	13		20
Chloroethane	ND	10	9.3	93		10	100		55-138	7		20
1,1-Dichloroethene	ND	10	11	110		12	120		61-145	9		25
trans-1,2-Dichloroethene	ND	10	10	100		11	110		70-130	10		20
Trichloroethene	ND	10	12	120		12	120		70-130	0		25
1,2-Dichlorobenzene	ND	10	11	110		11	110		70-130	0		20
1,3-Dichlorobenzene	ND	10	10	100		11	110		70-130	10		20
1,4-Dichlorobenzene	ND	10	10	100		11	110		70-130	10		20
Methyl tert butyl ether	ND	10	11	110		12	120		63-130	9		20
p/m-Xylene	ND	20	23	115		24	120		70-130	4		20
o-Xylene	ND	20	23	115		23	115		70-130	0		20
cis-1,2-Dichloroethene	ND	10	11	110		11	110		70-130	0		20
Dibromomethane	ND	10	12	120		12	120		70-130	0		20
1,2,3-Trichloropropane	ND	10	13	130		13	130		64-130	0		20
Dichlorodifluoromethane	ND	10	6.6	66		7.1	71		36-147	7		20
Acetone	ND	10	12	120		13	130		58-148	8		20
Carbon disulfide	ND	10	10	100		11	110		51-130	10		20
2-Butanone	ND	10	13	130		13	130		63-138	0		20
4-Methyl-2-pentanone	ND	10	8.7	87		9.7	97		59-130	11		20

# Matrix Spike Analysis

## Batch Quality Control

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-14 QC Batch ID: WG994774-6 WG994774-7 QC Sample: L1710571-01 Client ID: MW-201												
2-Hexanone	ND	10	8.4	84		9.1	91		57-130	8		20
Acrylonitrile	ND	10	13	130		14	140	Q	70-130	7		20
Bromochloromethane	ND	10	12	120		12	120		70-130	0		20
Tetrahydrofuran	ND	10	14	140	Q	15	150	Q	58-130	7		20
2,2-Dichloropropane	ND	10	11	110		11	110		63-133	0		20
1,2-Dibromoethane	ND	10	11	110		12	120		70-130	9		20
1,3-Dichloropropane	ND	10	12	120		12	120		70-130	0		20
1,1,1,2-Tetrachloroethane	ND	10	11	110		12	120		64-130	9		20
Bromobenzene	ND	10	10	100		11	110		70-130	10		20
n-Butylbenzene	ND	10	11	110		12	120		53-136	9		20
sec-Butylbenzene	ND	10	10	100		11	110		70-130	10		20
tert-Butylbenzene	ND	10	10	100		11	110		70-130	10		20
o-Chlorotoluene	ND	10	12	120		12	120		70-130	0		20
p-Chlorotoluene	ND	10	11	110		12	120		70-130	9		20
1,2-Dibromo-3-chloropropane	ND	10	9.5	95		9.7	97		41-144	2		20
Hexachlorobutadiene	ND	10	8.3	83		10	100		63-130	19		20
Isopropylbenzene	ND	10	11	110		11	110		70-130	0		20
p-Isopropyltoluene	ND	10	9.7	97		10	100		70-130	3		20
Naphthalene	0.68J	10	7.0	70		9.2	92		70-130	27	Q	20
n-Propylbenzene	ND	10	11	110		12	120		69-130	9		20
1,2,3-Trichlorobenzene	ND	10	10	100		13	130		70-130	26	Q	20

# Matrix Spike Analysis

## Batch Quality Control

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-14 QC Batch ID: WG994774-6 WG994774-7 QC Sample: L1710571-01 Client ID: MW-201												
1,2,4-Trichlorobenzene	ND	10	8.9	89		11	110		70-130	21	Q	20
1,3,5-Trimethylbenzene	ND	10	11	110		12	120		64-130	9		20
1,3,5-Trichlorobenzene	ND	10	9.5	95		10	100		70-130	5		20
1,2,4-Trimethylbenzene	ND	10	11	110		12	120		70-130	9		20
trans-1,4-Dichloro-2-butene	ND	10	11	110		12	120		70-130	9		20
Ethyl ether	ND	10	10	100		12	120		59-134	18		20
Diisopropyl Ether	ND	10	12	120		13	130		70-130	8		20
Tert-Butyl Alcohol	ND	50	60	120		72	144	Q	70-130	18		20
Ethyl-Tert-Butyl-Ether	ND	10	11	110		12	120		70-130	9		20
Tertiary-Amyl Methyl Ether	ND	10	9.9	99		10	100		66-130	1		20
1,4-Dioxane	ND	500	560	112		630	126		56-162	12		20
Freon-113	ND	10	11	110		12	120		70-130	9		20

Surrogate	MS		MSD		Acceptance Criteria
	% Recovery	Qualifier	% Recovery	Qualifier	
1,2-Dichloroethane-d4	120		118		70-130
4-Bromofluorobenzene	95		99		70-130
Dibromofluoromethane	108		106		70-130
Toluene-d8	102		102		70-130

# **SEMIVOLATILES**



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-01	Date Collected:	04/05/17 08:36
Client ID:	MW-201	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	04/11/17 06:02
Analytical Date:	04/11/17 20:40		
Analyst:	WR		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>1,4 Dioxane by 8270D-SIM - Mansfield Lab</b>						
1,4-Dioxane	ND		ug/l	0.142	0.0708	1
<hr/>						
Surrogate	% Recovery	Qualifier	<b>Acceptance Criteria</b>			
1,4-Dioxane-d8	26		15-110			

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-02	Date Collected:	04/05/17 07:46
Client ID:	MW-202	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	04/11/17 06:02
Analytical Date:	04/12/17 00:26		
Analyst:	WR		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>1,4 Dioxane by 8270D-SIM - Mansfield Lab</b>						
1,4-Dioxane	ND		ug/l	0.142	0.0708	1
<hr/>						
Surrogate	% Recovery	Qualifier	<b>Acceptance Criteria</b>			
1,4-Dioxane-d8	24		15-110			

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-03	Date Collected:	04/05/17 11:56
Client ID:	MW-102A	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	04/11/17 06:02
Analytical Date:	04/12/17 01:12		
Analyst:	WR		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>1,4 Dioxane by 8270D-SIM - Mansfield Lab</b>						
1,4-Dioxane	0.632		ug/l	0.142	0.0708	1
<hr/>						
Surrogate	% Recovery	Qualifier	<b>Acceptance Criteria</b>			
1,4-Dioxane-d8	22		15-110			

**Project Name:** L&RR  
**Project Number:** 224263

Serial\_No:04171715:01

**Lab Number:** L1710571  
**Report Date:** 04/17/17

### SAMPLE RESULTS

Lab ID: L1710571-04 Date Collected: 04/05/17 10:06  
Client ID: MW-103A Date Received: 04/05/17  
Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified  
Matrix: Water Extraction Method: EPA 3510C  
Analytical Method: 1,8270D-SIM Extraction Date: 04/11/17 06:02  
Analytical Date: 04/12/17 01:59  
Analyst: WR

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	1.38		ug/l	0.144	0.0721	1
Surrogate	% Recovery	Qualifier	Acceptance Criteria			
1,4-Dioxane-d8	23		15-110			

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-05	Date Collected:	04/05/17 14:51
Client ID:	MW-104A	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	04/11/17 06:02
Analytical Date:	04/12/17 02:45		
Analyst:	WR		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>1,4 Dioxane by 8270D-SIM - Mansfield Lab</b>						
1,4-Dioxane	15.6		ug/l	0.142	0.0708	1
<hr/>						
Surrogate	% Recovery	Qualifier	<b>Acceptance Criteria</b>			
1,4-Dioxane-d8	26		15-110			

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-06	Date Collected:	04/05/17 11:01
Client ID:	CW-5B	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	04/11/17 06:02
Analytical Date:	04/12/17 03:32		
Analyst:	WR		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>1,4 Dioxane by 8270D-SIM - Mansfield Lab</b>						
1,4-Dioxane	ND		ug/l	0.147	0.0735	1
<hr/>						
Surrogate	% Recovery	Qualifier	<b>Acceptance Criteria</b>			
1,4-Dioxane-d8	23		15-110			

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-07	Date Collected:	04/05/17 13:07
Client ID:	CW-7B	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	04/11/17 06:02
Analytical Date:	04/12/17 04:19		
Analyst:	WR		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>1,4 Dioxane by 8270D-SIM - Mansfield Lab</b>						
1,4-Dioxane	5.07		ug/l	0.142	0.0708	1
<hr/>						
Surrogate	% Recovery	Qualifier	<b>Acceptance Criteria</b>			
1,4-Dioxane-d8	19		15-110			

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-08	Date Collected:	04/05/17 09:20
Client ID:	SW-5	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	04/11/17 06:02
Analytical Date:	04/12/17 05:05		
Analyst:	WR		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>1,4 Dioxane by 8270D-SIM - Mansfield Lab</b>						
1,4-Dioxane	0.150		ug/l	0.147	0.0735	1
<hr/>						
Surrogate	% Recovery	Qualifier	<b>Acceptance Criteria</b>			
1,4-Dioxane-d8	25		15-110			

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-09	Date Collected:	04/05/17 12:20
Client ID:	SW-8	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	04/11/17 06:02
Analytical Date:	04/12/17 05:52		
Analyst:	WR		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>1,4 Dioxane by 8270D-SIM - Mansfield Lab</b>						
1,4-Dioxane	6.53		ug/l	0.150	0.0750	1
<hr/>						
Surrogate	% Recovery	Qualifier	<b>Acceptance Criteria</b>			
1,4-Dioxane-d8	31		15-110			

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-10	Date Collected:	04/05/17 13:37
Client ID:	SW-10	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	04/11/17 06:02
Analytical Date:	04/12/17 06:38		
Analyst:	WR		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>1,4 Dioxane by 8270D-SIM - Mansfield Lab</b>						
1,4-Dioxane	10.7		ug/l	0.147	0.0735	1
<hr/>						
Surrogate	% Recovery	Qualifier	<b>Acceptance Criteria</b>			
1,4-Dioxane-d8	25		15-110			

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-11	Date Collected:	04/05/17 13:45
Client ID:	SW-16	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	04/11/17 06:02
Analytical Date:	04/12/17 07:25		
Analyst:	WR		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>1,4 Dioxane by 8270D-SIM - Mansfield Lab</b>						
1,4-Dioxane	8.44		ug/l	0.144	0.0721	1
<hr/>						
Surrogate	% Recovery	Qualifier	<b>Acceptance Criteria</b>			
1,4-Dioxane-d8	26		15-110			

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-12	Date Collected:	04/05/17 14:00
Client ID:	LCH-3	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	04/11/17 06:02
Analytical Date:	04/12/17 08:11		
Analyst:	WR		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>1,4 Dioxane by 8270D-SIM - Mansfield Lab</b>						
1,4-Dioxane	ND		ug/l	0.153	0.0765	1
<hr/>						
Surrogate	% Recovery	Qualifier	<b>Acceptance Criteria</b>			
1,4-Dioxane-d8	25		15-110			

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-13	Date Collected:	04/05/17 11:15
Client ID:	LCH-5	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	04/11/17 06:02
Analytical Date:	04/12/17 08:58		
Analyst:	WR		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>1,4 Dioxane by 8270D-SIM - Mansfield Lab</b>						
1,4-Dioxane	1.24		ug/l	0.150	0.0750	1
<hr/>						
Surrogate	% Recovery	Qualifier	<b>Acceptance Criteria</b>			
1,4-Dioxane-d8	28		15-110			

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-14	Date Collected:	04/05/17 11:56
Client ID:	DUP-1	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	04/11/17 06:02
Analytical Date:	04/12/17 11:11		
Analyst:	WR		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>1,4 Dioxane by 8270D-SIM - Mansfield Lab</b>						
1,4-Dioxane	0.718		ug/l	0.142	0.0708	1
<hr/>						
Surrogate	% Recovery	Qualifier	<b>Acceptance Criteria</b>			
1,4-Dioxane-d8	27		15-110			

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**SAMPLE RESULTS**

Lab ID:	L1710571-15	Date Collected:	04/05/17 15:15
Client ID:	EQUIPMENT BLANK	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8270D-SIM	Extraction Date:	04/11/17 06:02
Analytical Date:	04/12/17 11:57		
Analyst:	WR		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
<b>1,4 Dioxane by 8270D-SIM - Mansfield Lab</b>						
1,4-Dioxane	ND		ug/l	0.142	0.0708	1
<hr/>						
Surrogate	% Recovery	Qualifier	<b>Acceptance Criteria</b>			
1,4-Dioxane-d8	23		15-110			

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

### **Method Blank Analysis**

#### **Batch Quality Control**

Analytical Method: 1,8270D-SIM  
Analytical Date: 04/11/17 13:41  
Analyst: WR

Extraction Method: EPA 3510C  
Extraction Date: 04/11/17 06:02

<b>Parameter</b>	<b>Result</b>	<b>Qualifier</b>	<b>Units</b>	<b>RL</b>	<b>MDL</b>
<b>1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 01-15 Batch: WG992936-1</b>					
1,4-Dioxane	ND		ug/l	0.150	0.0750

<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Acceptance Criteria</b>
1,4-Dioxane-d8	54		15-110

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

<b>Parameter</b>	<i>LCS</i> %Recovery	<i>Qual</i>	<i>LCSD</i> %Recovery	<i>Qual</i>	<i>%Recovery</i> <i>Limits</i>	<i>RPD</i>	<i>Qual</i>	<i>RPD</i> <i>Limits</i>
1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 01-15 Batch: WG992936-2 WG992936-3								
1,4-Dioxane	107		107		40-140	0		30

<b>Surrogate</b>	<i>LCS</i> %Recovery	<i>Qual</i>	<i>LCSD</i> %Recovery	<i>Qual</i>	<i>Acceptance</i> <i>Criteria</i>
1,4-Dioxane-d8					
	49		55		15-110

**Matrix Spike Analysis**  
**Batch Quality Control**

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD RPD	Qual	RPD Limits
1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 01-15 QC Batch ID: WG992936-4 WG992936-5 QC Sample: L1710571-01 Client ID: MW-201												
1,4-Dioxane	ND	4.72	5.18	110		5.16	109		40-140	0		30

Surrogate	MS % Recovery	Qualifier	MSD % Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	37		34		15-110

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

### Sample Receipt and Container Information

Were project specific reporting limits specified? YES

#### Cooler Information Custody Seal

##### Cooler

A	Absent
B	Absent

#### Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1710571-01A	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-01A1	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-01A2	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-01B	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-01B1	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-01B2	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-01C	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-01C1	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-01C2	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-01D	Vial Na2S2O3 preserved	A	N/A	4.2	Y	Absent	504(14)
L1710571-01D1	Vial Na2S2O3 preserved	A	N/A	4.2	Y	Absent	504(14)
L1710571-01D2	Vial Na2S2O3 preserved	A	N/A	4.2	Y	Absent	504(14)
L1710571-01E	Vial Na2S2O3 preserved	A	N/A	4.2	Y	Absent	504(14)
L1710571-01E1	Vial Na2S2O3 preserved	A	N/A	4.2	Y	Absent	504(14)
L1710571-01E2	Vial Na2S2O3 preserved	A	N/A	4.2	Y	Absent	504(14)
L1710571-01F	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-01F1	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-01F2	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-01G	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-01G1	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-01G2	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-02A	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-02B	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-02C	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-02D	Vial Na2S2O3 preserved	A	N/A	4.2	Y	Absent	504(14)
L1710571-02E	Vial Na2S2O3 preserved	A	N/A	4.2	Y	Absent	504(14)
L1710571-02F	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-02G	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-14-DIOXANESIM-PPB(7)

\*Values in parentheses indicate holding time in days

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**Container Information**

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1710571-03A	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-03B	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-03C	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-03D	Vial Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> preserved	A	N/A	4.2	Y	Absent	504(14)
L1710571-03E	Vial Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> preserved	A	N/A	4.2	Y	Absent	504(14)
L1710571-03F	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-03G	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-03H	Vial HCl preserved	A	N/A	4.2	Y	Absent	HOLD-8260(14)
L1710571-03I	Vial HCl preserved	A	N/A	4.2	Y	Absent	HOLD-8260(14)
L1710571-03J	Vial HCl preserved	A	N/A	4.2	Y	Absent	HOLD-8260(14)
L1710571-04A	Vial HCl preserved	B	N/A	3.7	Y	Absent	8260-LRR(14)
L1710571-04B	Vial HCl preserved	B	N/A	3.7	Y	Absent	8260-LRR(14)
L1710571-04C	Vial HCl preserved	B	N/A	3.7	Y	Absent	8260-LRR(14)
L1710571-04D	Vial Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> preserved	B	N/A	3.7	Y	Absent	504(14)
L1710571-04E	Vial Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> preserved	B	N/A	3.7	Y	Absent	504(14)
L1710571-04F	Amber 500ml unpreserved	B	7	3.7	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-04G	Amber 500ml unpreserved	B	7	3.7	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-05A	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-05B	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-05C	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-05D	Vial Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> preserved	A	N/A	4.2	Y	Absent	504(14)
L1710571-05E	Vial Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> preserved	A	N/A	4.2	Y	Absent	504(14)
L1710571-05F	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-05G	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-06A	Vial HCl preserved	B	N/A	3.7	Y	Absent	8260-LRR(14)
L1710571-06B	Vial HCl preserved	B	N/A	3.7	Y	Absent	8260-LRR(14)
L1710571-06C	Vial HCl preserved	B	N/A	3.7	Y	Absent	8260-LRR(14)
L1710571-06D	Vial Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> preserved	B	N/A	3.7	Y	Absent	504(14)
L1710571-06E	Vial Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> preserved	B	N/A	3.7	Y	Absent	504(14)
L1710571-06F	Amber 500ml unpreserved	B	7	3.7	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-06G	Amber 500ml unpreserved	B	7	3.7	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-07A	Vial HCl preserved	B	N/A	3.7	Y	Absent	8260-LRR(14)
L1710571-07B	Vial HCl preserved	B	N/A	3.7	Y	Absent	8260-LRR(14)
L1710571-07C	Vial HCl preserved	B	N/A	3.7	Y	Absent	8260-LRR(14)
L1710571-07D	Vial Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> preserved	B	N/A	3.7	Y	Absent	504(14)
L1710571-07E	Vial Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> preserved	B	N/A	3.7	Y	Absent	504(14)

\*Values in parentheses indicate holding time in days

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**Container Information**

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1710571-07F	Amber 500ml unpreserved	B	7	3.7	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-07G	Amber 500ml unpreserved	B	7	3.7	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-08A	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-08B	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-08C	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-08D	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-08E	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-09A	Vial HCl preserved	B	N/A	3.7	Y	Absent	8260-LRR(14)
L1710571-09B	Vial HCl preserved	B	N/A	3.7	Y	Absent	8260-LRR(14)
L1710571-09C	Vial HCl preserved	B	N/A	3.7	Y	Absent	8260-LRR(14)
L1710571-09D	Amber 500ml unpreserved	B	7	3.7	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-09E	Amber 500ml unpreserved	B	7	3.7	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-10A	Vial HCl preserved	B	N/A	3.7	Y	Absent	8260-LRR(14)
L1710571-10B	Vial HCl preserved	B	N/A	3.7	Y	Absent	8260-LRR(14)
L1710571-10C	Vial HCl preserved	B	N/A	3.7	Y	Absent	8260-LRR(14)
L1710571-10D	Amber 500ml unpreserved	B	7	3.7	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-10E	Amber 500ml unpreserved	B	7	3.7	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-11A	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-11B	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-11C	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-11D	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-11E	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-12A	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-12B	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-12C	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-12D	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-12E	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-13A	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-13B	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-13C	Vial HCl preserved	A	N/A	4.2	Y	Absent	8260-LRR(14)
L1710571-13D	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-13E	Amber 500ml unpreserved	A	7	4.2	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-14A	Vial HCl preserved	B	N/A	3.7	Y	Absent	8260-LRR(14)
L1710571-14B	Vial HCl preserved	B	N/A	3.7	Y	Absent	8260-LRR(14)
L1710571-14C	Vial HCl preserved	B	N/A	3.7	Y	Absent	HOLD-8260(14)
L1710571-14D	Vial Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> preserved	B	N/A	3.7	Y	Absent	504(14)

\*Values in parentheses indicate holding time in days

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**Container Information**

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1710571-14E	Vial Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> preserved	B	N/A	3.7	Y	Absent	504(14)
L1710571-14F	Amber 500ml unpreserved	B	7	3.7	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-14G	Amber 500ml unpreserved	B	7	3.7	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-15A	Vial HCl preserved	B	N/A	3.7	Y	Absent	8260-LRR(14)
L1710571-15B	Vial HCl preserved	B	N/A	3.7	Y	Absent	8260-LRR(14)
L1710571-15C	Vial HCl preserved	B	N/A	3.7	Y	Absent	8260-LRR(14)
L1710571-15D	Vial Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> preserved	B	N/A	3.7	Y	Absent	504(14)
L1710571-15E	Vial Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> preserved	B	N/A	3.7	Y	Absent	504(14)
L1710571-15F	Amber 500ml unpreserved	B	7	3.7	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-15G	Amber 500ml unpreserved	B	7	3.7	Y	Absent	A2-14-DIOXANESIM-PPB(7)
L1710571-16A	Vial HCl preserved	B	N/A	3.7	Y	Absent	8260-LRR(14)
L1710571-16B	Vial HCl preserved	B	N/A	3.7	Y	Absent	8260-LRR(14)
L1710571-16C	Vial HCl preserved	B	N/A	3.7	Y	Absent	8260-LRR(14)
L1710571-16D	Vial HCl preserved	B	N/A	3.7	Y	Absent	8260-LRR(14)
L1710571-16E	Vial Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> preserved	B	N/A	3.7	Y	Absent	504(14)
L1710571-16F	Vial Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> preserved	B	N/A	3.7	Y	Absent	504(14)
L1710571-16G	Vial Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> preserved	B	N/A	3.7	Y	Absent	504(14)
L1710571-16H	Vial Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> preserved	B	N/A	3.7	Y	Absent	504(14)

\*Values in parentheses indicate holding time in days

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

## GLOSSARY

### **Acronyms**

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

### **Footnotes**

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### **Terms**

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### **Data Qualifiers**

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

**Report Format:** DU Report with 'J' Qualifiers



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

**Data Qualifiers**

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

*Report Format:* DU Report with 'J' Qualifiers



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710571  
**Report Date:** 04/17/17

## REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.
- 14 Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water. EPA/600/4-88/039, Revised July 1991.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at its own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

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**The following analytes are not included in our Primary NELAP Scope of Accreditation:**

**Westborough Facility**

EPA 624: m/p-xylene, o-xylene  
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.  
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.  
EPA 300: DW: Bromide  
EPA 6860: NPW and SCM: Perchlorate  
EPA 9010: NPW and SCM: Amenable Cyanide Distillation  
EPA 9012B: NPW: Total Cyanide  
EPA 9050A: NPW: Specific Conductance  
SM3500: NPW: Ferrous Iron  
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.  
SM5310C: DW: Dissolved Organic Carbon

**Mansfield Facility**

SM 2540D: TSS  
EPA 3005A NPW  
EPA 8082A: NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.  
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.  
Biological Tissue Matrix: EPA 3050B

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**The following analytes are included in our Massachusetts DEP Scope of Accreditation**

**Westborough Facility:**

**Drinking Water**

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C**, **SM4500CN-CE**, **EPA 180.1**, **SM2130B**, **SM4500CI-D**, **SM2320B**, **SM2540C**, **SM4500H-B**  
EPA 332: Perchlorate; **EPA 524.2**: THMs and VOCs; **EPA 504.1**: EDB, DBCP.  
Microbiology: **SM9215B**; **SM9223-P/A**, **SM9223B-Colilert-QT**,**SM9222D**.

**Non-Potable Water**

**SM4500H,B**, **EPA 120.1**, **SM2510B**, **SM2540C**, **SM2320B**, **SM4500CL-E**, **SM4500F-BC**, **SM4500NH3-BH**, **EPA 350.1**: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, **SM4500NO3-F**, **EPA 353.2**: Nitrate-N, **EPA 351.1**, **SM4500P-E**, **SM4500P-B**, **E**, **SM4500SO4-E**, **SM5220D**, **EPA 410.4**, **SM5210B**, **SM5310C**, **SM4500CL-D**, **EPA 1664**, **EPA 420.1**, **SM4500-CN-CE**, **SM2540D**.  
**EPA 624**: Volatile Halocarbons & Aromatics,  
**EPA 608**: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs  
**EPA 625**: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.  
Microbiology: **SM9223B-Colilert-QT**; **Enterolert-QT**, **SM9221E**.

**Mansfield Facility:**

**Drinking Water**

**EPA 200.7**: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8**: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg**.

**Non-Potable Water**

**EPA 200.7**: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.  
**EPA 200.8**: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.  
**EPA 245.1 Hg**.  
**SM2340B**

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For a complete listing of analytes and methods, please contact your Alpha Project Manager.



## **CHAIN OF CUSTODY**

PAGE 1 OF 2

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

## IS YOUR PROJECT

IS YOUR PROJECT  
MA MCP or CT RCP?

FORM NO. 01-21  
(REV. 6-JAN-12)



# CHAIN OF CUSTODY

PAGE 2 OF 2

Westborough, MA Mansfield, MA  
TEL: 508-898-9220 TEL: 508-822-9300  
FAX: 508-898-8193 FAX: 508-822-3288

## Client Information

Client: Woodard &amp; Curran

Address: 40 Shattuck Road Suite 40

Andover MA 01810

Phone: 866-702-6371

Fax: 978-557-7948

Email: solney@Woodardcurran.com

 These samples have been Previously analyzed by Alpha

Project Name: L&amp;RR

Project Location: North Smithfield RI

Project #: 224263

Project Manager: Samantha Olney

ALPHA Quote #:

## Turn-Around Time

 Standard  Rush (ONLY IF PRE-APPROVED) These samples have been Previously analyzed by Alpha

Due Date: 10 DAY TAT Time:

## Other Project Specific Requirements/Comments/Detection Limits:

Reporting limit for 1-4 Dioxane must be below 1.6 ug/L, GW samples must meet RI GA Groundwater Objectives, SW Samples must meet RIDEM AWQCG, PDF report and GIS/Key EDD required, modified Tier II/TierPlus report, Hold extra set of VOC Vials for MW-102A low level and analize if TCE is J-Flagged below 5.0 ug/L.

SD6-4  
VOC

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials
		Date	Time		
10571-11	SW-16	4/5/17	1345	GW	RM
-12	LCH-3		1406	GW	RM
-13	LCH-B- LCH-5		1113	GW	RM
-14	DUP-1		1156	GW	RM
-01	MS - MW-201		826	GW	RM
-01	MSD - MW-201		836	GW	RM
-15	EQUIPMENT BLANK		1515	GW	RM
-16	Trip Blank				

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT  
MA MCP or CT RCP?

FORM NO: 01-0101  
(Rev. 5-2011)

Data Rec'd in Lab: 4/5/17 ALPHA Job #: 1710571

Report Information	Data Deliverables	Billing Information
<input type="checkbox"/> FAX	<input checked="" type="checkbox"/> EMAIL	<input checked="" type="checkbox"/> Same as Client Info
<input checked="" type="checkbox"/> ADEX	<input checked="" type="checkbox"/> Add'l Deliverables	PO #:

Regulatory Requirements/Report Limits	Criteria
State/Fed Program	

MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS		
<input type="checkbox"/> Yes	<input type="checkbox"/> No	Are MCP Analytical Methods Required?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	Are CT RCP (Reasonable Confidence Protocols) Required?

ANALYSIS						SAMPLE HANDLING	TOTAL
VOC 8280C	1-4 Dioxane 8270 SIM (HOLD)	VOC LL-SIM	EDB DBCP 504.1				
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>					
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>					
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**L&RR**  
**PROJECT SUMMARY**

**Alpha Analytical Job Number: L1710571**

Validation was performed on the organic analytical data collected by Woodard & Curran, Inc. at the L&RR Site in North Smithfield, Rhode Island. The data validation was conducted in accordance with "USEPA National Functional Guidelines for Organic Superfund Methods Data Review" January 2017; "EPA New England Environmental Data Review Supplement For Regional Data Review Elements and Superfund Specific Guidance/Procedures" April 2013, the Quality Assurance Project Plan (QAPP); and the referenced methods.

SDG	ANALYSES
L1710571	VOCs; 1,4-D; EDB & DBCP

VOCs=Volatile Organic Compounds by SW846 Method 8260C; 1,4-D=1,4-dioxane by SW846 Method 8270D selective ion monitoring (SIM); and EDB & DBCP=Ethylene dibromide & 1,2-dibromo-3-chloropropane by EPA Method 504.1

Field Sample ID	Alpha Analytical ID
MW-201	L1710571-01
MW-202	L1710571-02
MW-102A	L1710571-03
MW-103A	L1710571-04
MW-104A	L1710571-05
CW-5B	L1710571-06
CW-7B	L1710571-07
SW-5	L1710571-08
SW-8	L1710571-09
SW-10	L1710571-10
SW-16	L1710571-11
LCH-3	L1710571-12
LCH-5	L1710571-13
DUP-1	L1710571-14
EQUIPMENT BLANK	L1710571-15
TRIP BLANK	L1710571-16

The data were evaluated and were based on the following parameters:

**Organics**

- Holding times
- Sample preservation
- Blank results
- Surrogate recoveries
- Matrix spike and matrix spike duplicate results
- Field duplicates
- Laboratory control sample (and duplicate) results

**L&RR  
PROJECT SUMMARY**

**Alpha Analytical Job Number: L1710571**

**Organics**

**Holding Times**

All samples for VOCs; 1,4-D; and EDB & DBCP were extracted and/or analyzed within technical holding times. No qualifications were applied to the data.

**Sample Preservation**

Samples were received at 3.7 and 4.2 degrees Celsius. No qualifications were applied to the data.

**Blank Results**

All VOCs; 1,4-D; and EDB & DBCP method blanks were non-detect (ND) for all target compounds with the following exceptions:

<b>Blank ID</b>	<b>Compound</b>	<b>Concentration</b>	<b>Impacted Samples</b>	<b>Qualifier</b>
WG994774-5	Naphthalene 1,2,3-Trichlorobenzene	0.75 µg/L 0.30 µg/L	L1710571-01 through -14	U@RL, L1710571-01, -05 None, samples ND

RL=reporting limit

VOCs; 1,4-D; and EDB & DBCP equipment blank sample, EQUIPMENT BLANK (L1710571-15) and VOCs and 1,4-D trip blank sample, TRIP BLANK (L1710571-16), were ND for all target compounds. No qualifications were applied to the data.

**Surrogate Recoveries**

All VOCs and 1,4-D surrogates met acceptance criteria. No qualifications were applied to the data.

**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Results**

The VOCs; 1,4-D; and EDB & DBCP MS/MSD performed on sample MW-201 (L1710571-01) met acceptance criteria with the following exceptions:

<b>Lab ID</b>	<b>Sample ID</b>	<b>Compound</b>	<b>%R/%R/RPD</b>	<b>QC Limits</b>	<b>Qualifier</b>
L1710571-01	MW-201	Chloromethane Acrylonitrile Tetrahydrofuran Naphthalene 1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene Tert-butyl alcohol	62/OK/OK OK/140/OK 140/150/OK OK/OK/27 OK/OK/26 OK/OK/21 OK/144/OK	64-130%/20 70-130%/20 58-130%/20 70-130%/20 70-130%/20 70-130%/20 70-130%/20	UJ None, sample ND None, sample ND None, sample ND None, sample ND None, sample ND None, sample ND

**L&RR**  
**PROJECT SUMMARY**

**Alpha Analytical Job Number: L1710571**

**Field Duplicates**

The VOCs; 1,4-D; and EDB & DBCP field duplicate samples MW-102A (L1710571-03)/DUP-1 (L1710571-14) met acceptance criteria. No qualifications were applied to the data.

**Laboratory Control Sample (and Duplicate) Results**

All VOCs; 1,4-D; and EDB & DBCP laboratory control samples (LCS) or laboratory control samples/laboratory control sample duplicates (LCS/LCSD) met acceptance criteria with the following exceptions:

<b>LCS/LCSD ID</b>	<b>Compound</b>	<b>%R/%R/RPD</b>	<b>QC Limits</b>	<b>Affected Sample</b>	<b>Qualifier</b>
WG994774-3&4	2-Butanone	140/OK/OK	63-138%/20	L1710571-01	None, samples ND
	2-Hexanone	OK/OK/21	57-130%/20	through -14	None, samples ND
	Tetrahydrofuran	150/140/OK	58-130%/20		J+, L1710571-09
	n-Butylbenzene	OK/OK/22	53-136%/20		None, samples ND
	Naphthalene	OK/OK/21	70-130%/20		J+*, L1710571-01, -05
	1,2,3-Trichlorobenzene	140/OK/OK	70-130%/20		None, samples ND
	Tert-butyl alcohol	152/144/OK	70-130%/20		J+, L1710571-03, -05, -07, -09, -10, -11

\*Ultimately qualified "U" due to method blank contamination as noted above.

Data Check, Inc.  
P.O. Box 29  
81 Meaderboro Road  
New Durham, NH 03855

Gloria J. Switalski:  
President

Date: 4/27/2017



## ANALYTICAL REPORT

Lab Number:	L1710584
Client:	Woodard & Curran 40 Shattuck Road Suite 110 Andover, MA 01810
ATTN:	Mike Apfelbaum
Phone:	(978) 557-8150
Project Name:	L&RR
Project Number:	224263
Report Date:	04/12/17

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

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Eight Walkup Drive, Westborough, MA 01581-1019  
508-898-9220 (Fax) 508-898-9193 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710584  
**Report Date:** 04/12/17

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Matrix</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>	<b>Receive Date</b>
L1710584-01	MW-201	WATER	NORTH SMITHFIELD, RI	04/05/17 08:36	04/05/17
L1710584-02	MW-202	WATER	NORTH SMITHFIELD, RI	04/05/17 07:46	04/05/17
L1710584-03	MW-102A	WATER	NORTH SMITHFIELD, RI	04/05/17 11:56	04/05/17
L1710584-04	MW-103A	WATER	NORTH SMITHFIELD, RI	04/05/17 10:06	04/05/17
L1710584-05	MW-104A	WATER	NORTH SMITHFIELD, RI	04/05/17 14:51	04/05/17
L1710584-06	CW-5B	WATER	NORTH SMITHFIELD, RI	04/05/17 11:01	04/05/17
L1710584-07	CW-7B	WATER	NORTH SMITHFIELD, RI	04/05/17 13:07	04/05/17
L1710584-08	SW-5	WATER	NORTH SMITHFIELD, RI	04/05/17 09:20	04/05/17
L1710584-09	SW-8	WATER	NORTH SMITHFIELD, RI	04/05/17 12:20	04/05/17
L1710584-10	SW-10	WATER	NORTH SMITHFIELD, RI	04/05/17 13:37	04/05/17
L1710584-11	SW-16	WATER	NORTH SMITHFIELD, RI	04/05/17 13:45	04/05/17
L1710584-12	LCH-3	WATER	NORTH SMITHFIELD, RI	04/05/17 14:00	04/05/17
L1710584-13	LCH-5	WATER	NORTH SMITHFIELD, RI	04/05/17 11:15	04/05/17
L1710584-14	DUP-1	WATER	NORTH SMITHFIELD, RI	04/05/17 11:56	04/05/17
L1710584-15	EQUIPMENT BLANK	WATER	NORTH SMITHFIELD, RI	04/05/17 15:15	04/05/17

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710584  
**Report Date:** 04/12/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710584  
**Report Date:** 04/12/17

**Case Narrative (continued)**

**Report Submission**

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

 Kara Lindquist

Title: Technical Director/Representative

Date: 04/12/17

# **INORGANICS & MISCELLANEOUS**



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710584  
**Report Date:** 04/12/17

### SAMPLE RESULTS

Lab ID: L1710584-01  
Client ID: MW-201  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water

Date Collected: 04/05/17 08:36  
Date Received: 04/05/17  
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>General Chemistry - Westborough Lab</b>										
Nitrogen, Ammonia	0.095		mg/l	0.075	0.022	1	04/07/17 01:00	04/07/17 22:50	44,350.1	AT
Chemical Oxygen Demand	ND		mg/l	20	6.6	1	04/10/17 17:50	04/10/17 20:48	44,410.4	TL
BOD, 5 day	ND		mg/l	2.0	NA	1	04/06/17 23:20	04/11/17 23:22	121,5210B	TE
<b>Anions by Ion Chromatography - Westborough Lab</b>										
Chloride	2.70		mg/l	0.500	0.054	1	-	04/09/17 15:36	44,300.0	JC

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710584  
**Report Date:** 04/12/17

### SAMPLE RESULTS

Lab ID: L1710584-02  
Client ID: MW-202  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water

Date Collected: 04/05/17 07:46  
Date Received: 04/05/17  
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>General Chemistry - Westborough Lab</b>										
Nitrogen, Ammonia	ND		mg/l	0.075	0.022	1	04/07/17 01:00	04/07/17 22:55	44,350.1	AT
Chemical Oxygen Demand	11.	J	mg/l	20	6.6	1	04/10/17 17:50	04/10/17 20:49	44,410.4	TL
BOD, 5 day	ND		mg/l	2.0	NA	1	04/06/17 23:20	04/11/17 23:22	121,5210B	TE
<b>Anions by Ion Chromatography - Westborough Lab</b>										
Chloride	58.7		mg/l	2.50	0.270	5	-	04/09/17 18:12	44,300.0	JC



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710584  
**Report Date:** 04/12/17

### SAMPLE RESULTS

Lab ID: L1710584-03  
Client ID: MW-102A  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water

Date Collected: 04/05/17 11:56  
Date Received: 04/05/17  
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>General Chemistry - Westborough Lab</b>										
Nitrogen, Ammonia	0.489		mg/l	0.075	0.022	1	04/07/17 01:00	04/07/17 22:56	44,350.1	AT
Chemical Oxygen Demand	31.		mg/l	20	6.6	1	04/10/17 17:50	04/10/17 20:49	44,410.4	TL
BOD, 5 day	6.8		mg/l	2.0	NA	1	04/06/17 23:20	04/11/17 23:22	121,5210B	TE
<b>Anions by Ion Chromatography - Westborough Lab</b>										
Chloride	2.00		mg/l	0.500	0.054	1	-	04/09/17 18:24	44,300.0	JC



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710584  
**Report Date:** 04/12/17

### SAMPLE RESULTS

Lab ID: L1710584-04  
Client ID: MW-103A  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water

Date Collected: 04/05/17 10:06  
Date Received: 04/05/17  
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>General Chemistry - Westborough Lab</b>										
Nitrogen, Ammonia	ND		mg/l	0.075	0.022	1	04/07/17 01:00	04/07/17 22:56	44,350.1	AT
Chemical Oxygen Demand	11.	J	mg/l	20	6.6	1	04/10/17 17:50	04/10/17 20:49	44,410.4	TL
BOD, 5 day	ND		mg/l	2.0	NA	1	04/06/17 23:20	04/11/17 23:22	121,5210B	TE
<b>Anions by Ion Chromatography - Westborough Lab</b>										
Chloride	3.68		mg/l	0.500	0.054	1	-	04/09/17 16:36	44,300.0	JC



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710584  
**Report Date:** 04/12/17

### SAMPLE RESULTS

Lab ID: L1710584-05  
Client ID: MW-104A  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water

Date Collected: 04/05/17 14:51  
Date Received: 04/05/17  
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>General Chemistry - Westborough Lab</b>										
Nitrogen, Ammonia	1.97		mg/l	0.075	0.022	1	04/07/17 01:00	04/07/17 22:57	44,350.1	AT
Chemical Oxygen Demand	11.	J	mg/l	20	6.6	1	04/10/17 17:50	04/10/17 20:49	44,410.4	TL
BOD, 5 day	4.6		mg/l	2.0	NA	1	04/06/17 23:20	04/11/17 23:22	121,5210B	TE
<b>Anions by Ion Chromatography - Westborough Lab</b>										
Chloride	12.9		mg/l	0.500	0.054	1	-	04/09/17 20:12	44,300.0	JC



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710584  
**Report Date:** 04/12/17

### SAMPLE RESULTS

Lab ID: L1710584-06  
Client ID: CW-5B  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water

Date Collected: 04/05/17 11:01  
Date Received: 04/05/17  
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>General Chemistry - Westborough Lab</b>										
Nitrogen, Ammonia	ND		mg/l	0.075	0.022	1	04/07/17 01:00	04/07/17 22:58	44,350.1	AT
Chemical Oxygen Demand	13.	J	mg/l	20	6.6	1	04/10/17 17:50	04/10/17 20:49	44,410.4	TL
BOD, 5 day	ND		mg/l	2.0	NA	1	04/06/17 23:20	04/11/17 23:22	121,5210B	TE
<b>Anions by Ion Chromatography - Westborough Lab</b>										
Chloride	1.87		mg/l	0.500	0.054	1	-	04/09/17 16:48	44,300.0	JC



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710584  
**Report Date:** 04/12/17

### SAMPLE RESULTS

Lab ID: L1710584-07  
Client ID: CW-7B  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water

Date Collected: 04/05/17 13:07  
Date Received: 04/05/17  
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>General Chemistry - Westborough Lab</b>										
Nitrogen, Ammonia	ND		mg/l	0.075	0.022	1	04/07/17 01:00	04/07/17 22:59	44,350.1	AT
Chemical Oxygen Demand	ND		mg/l	20	6.6	1	04/10/17 17:50	04/10/17 20:49	44,410.4	TL
BOD, 5 day	ND		mg/l	2.0	NA	1	04/06/17 23:20	04/11/17 23:22	121,5210B	TE
<b>Anions by Ion Chromatography - Westborough Lab</b>										
Chloride	2.68		mg/l	0.500	0.054	1	-	04/09/17 17:36	44,300.0	JC



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710584  
**Report Date:** 04/12/17

### SAMPLE RESULTS

Lab ID: L1710584-08  
Client ID: SW-5  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water

Date Collected: 04/05/17 09:20  
Date Received: 04/05/17  
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>Anions by Ion Chromatography - Westborough Lab</b>										
Chloride	2.66		mg/l	0.500	0.054	1	-	04/09/17 21:24	44,300.0	JC

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710584  
**Report Date:** 04/12/17

### SAMPLE RESULTS

Lab ID: L1710584-09  
Client ID: SW-8  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water

Date Collected: 04/05/17 12:20  
Date Received: 04/05/17  
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>Anions by Ion Chromatography - Westborough Lab</b>										
Chloride	15.9		mg/l	0.500	0.054	1	-	04/09/17 18:00	44,300.0	JC

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710584  
**Report Date:** 04/12/17

### SAMPLE RESULTS

Lab ID: L1710584-10  
Client ID: SW-10  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water

Date Collected: 04/05/17 13:37  
Date Received: 04/05/17  
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>Anions by Ion Chromatography - Westborough Lab</b>										
Chloride	11.4		mg/l	0.500	0.054	1	-	04/09/17 18:36	44,300.0	JC

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710584  
**Report Date:** 04/12/17

### SAMPLE RESULTS

Lab ID: L1710584-11  
Client ID: SW-16  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water

Date Collected: 04/05/17 13:45  
Date Received: 04/05/17  
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>Anions by Ion Chromatography - Westborough Lab</b>										
Chloride	8.78		mg/l	0.500	0.054	1	-	04/09/17 18:48	44,300.0	JC

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710584  
**Report Date:** 04/12/17

### SAMPLE RESULTS

Lab ID: L1710584-12  
Client ID: LCH-3  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water

Date Collected: 04/05/17 14:00  
Date Received: 04/05/17  
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>Anions by Ion Chromatography - Westborough Lab</b>										
Chloride	1.26		mg/l	0.500	0.054	1	-	04/09/17 21:12	44,300.0	JC

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710584  
**Report Date:** 04/12/17

### SAMPLE RESULTS

Lab ID: L1710584-13  
Client ID: LCH-5  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water

Date Collected: 04/05/17 11:15  
Date Received: 04/05/17  
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>Anions by Ion Chromatography - Westborough Lab</b>										
Chloride	0.982		mg/l	0.500	0.054	1	-	04/09/17 19:00	44,300.0	JC

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710584  
**Report Date:** 04/12/17

### SAMPLE RESULTS

Lab ID: L1710584-14  
Client ID: DUP-1  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water

Date Collected: 04/05/17 11:56  
Date Received: 04/05/17  
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>General Chemistry - Westborough Lab</b>										
Nitrogen, Ammonia	0.472		mg/l	0.075	0.022	1	04/07/17 01:00	04/07/17 23:00	44,350.1	AT
Chemical Oxygen Demand	20.		mg/l	20	6.6	1	04/10/17 17:50	04/10/17 20:50	44,410.4	TL
BOD, 5 day	7.7		mg/l	2.0	NA	1	04/06/17 23:20	04/11/17 23:22	121,5210B	TE
<b>Anions by Ion Chromatography - Westborough Lab</b>										
Chloride	2.01		mg/l	0.500	0.054	1	-	04/09/17 20:24	44,300.0	JC



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710584  
**Report Date:** 04/12/17

### SAMPLE RESULTS

Lab ID: L1710584-15  
Client ID: EQUIPMENT BLANK  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water

Date Collected: 04/05/17 15:15  
Date Received: 04/05/17  
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>General Chemistry - Westborough Lab</b>										
Nitrogen, Ammonia	ND		mg/l	0.075	0.022	1	04/07/17 01:00	04/07/17 23:01	44,350.1	AT
Chemical Oxygen Demand	ND		mg/l	20	6.6	1	04/10/17 17:50	04/10/17 20:50	44,410.4	TL
BOD, 5 day	ND		mg/l	2.0	NA	1	04/06/17 23:20	04/11/17 23:22	121,5210B	TE
<b>Anions by Ion Chromatography - Westborough Lab</b>										
Chloride	ND		mg/l	0.500	0.054	1	-	04/09/17 20:36	44,300.0	JC

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710584  
**Report Date:** 04/12/17

**Method Blank Analysis**  
**Batch Quality Control**

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-07,14-15 Batch: WG991895-1									
BOD, 5 day	ND	mg/l	2.0	NA	1	04/06/17 23:20	04/11/17 23:22	121,5210B	TE
General Chemistry - Westborough Lab for sample(s): 01-07,14-15 Batch: WG991905-1									
Nitrogen, Ammonia	ND	mg/l	0.075	0.022	1	04/07/17 01:00	04/07/17 22:32	44,350.1	AT
General Chemistry - Westborough Lab for sample(s): 01-07,14-15 Batch: WG992812-1									
Chemical Oxygen Demand	ND	mg/l	20	6.6	1	04/10/17 17:50	04/10/17 20:48	44,410.4	TL
Anions by Ion Chromatography - Westborough Lab for sample(s): 01-03,05-11 Batch: WG992828-1									
Chloride	ND	mg/l	0.500	0.054	1	-	04/09/17 15:12	44,300.0	JC
Anions by Ion Chromatography - Westborough Lab for sample(s): 04,12-15 Batch: WG992830-1									
Chloride	ND	mg/l	0.500	0.054	1	-	04/09/17 19:48	44,300.0	JC



# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710584  
**Report Date:** 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-07,14-15 Batch: WG991895-2								
BOD, 5 day	115	-	-	-	85-115	-	-	20
General Chemistry - Westborough Lab Associated sample(s): 01-07,14-15 Batch: WG991905-2								
Nitrogen, Ammonia	95	-	-	-	90-110	-	-	20
General Chemistry - Westborough Lab Associated sample(s): 01-07,14-15 Batch: WG992812-2								
Chemical Oxygen Demand	101	-	-	-	90-110	-	-	
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01-03,05-11 Batch: WG992828-2								
Chloride	104	-	-	-	90-110	-	-	
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 04,12-15 Batch: WG992830-2								
Chloride	104	-	-	-	90-110	-	-	

**Matrix Spike Analysis**  
**Batch Quality Control**

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710584  
**Report Date:** 04/12/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Qual	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-07,14-15 QC Batch ID: WG991895-3 QC Sample: L1710584-01 Client ID: MW-201												
BOD, 5 day	ND	100	110	106	-	-	-	-	50-145	-	-	35
General Chemistry - Westborough Lab Associated sample(s): 01-07,14-15 QC Batch ID: WG991905-4 QC Sample: L1710584-01 Client ID: MW-201												
Nitrogen, Ammonia	0.095	4	3.68	90	-	-	-	-	90-110	-	-	20
General Chemistry - Westborough Lab Associated sample(s): 01-07,14-15 QC Batch ID: WG992812-3 QC Sample: L1710584-01 Client ID: MW-201												
Chemical Oxygen Demand	ND	238	230	97	-	-	-	-	90-110	-	-	20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01-03,05-11 QC Batch ID: WG992828-3 WG992828-4 QC Sample: L1710584-01 Client ID: MW-201												
Chloride	2.70	4	6.90	105	6.90	105	90-110	0	-	-	-	18
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 04,12-15 QC Batch ID: WG992830-3 QC Sample: L1710584-04 Client ID: MW-103A												
Chloride	3.68	4	7.79	103	-	-	-	-	90-110	-	-	18

**Lab Duplicate Analysis**  
Batch Quality Control

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710584  
**Report Date:** 04/12/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-07,14-15 QC Batch ID: WG991895-4 QC Sample: L1710584-01 Client ID: MW-201						
BOD, 5 day	ND	ND	mg/l	NC		35
General Chemistry - Westborough Lab Associated sample(s): 01-07,14-15 QC Batch ID: WG991905-3 QC Sample: L1710584-01 Client ID: MW-201						
Nitrogen, Ammonia	0.095	0.051J	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01-07,14-15 QC Batch ID: WG992812-4 QC Sample: L1710584-01 Client ID: MW-201						
Chemical Oxygen Demand	ND	ND	mg/l	NC		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 04,12-15 QC Batch ID: WG992830-4 QC Sample: L1710584-04 Client ID: MW-103A						
Chloride	3.68	3.75	mg/l	2		18

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710584  
**Report Date:** 04/12/17

### Sample Receipt and Container Information

Were project specific reporting limits specified? YES

#### Cooler Information Custody Seal

##### Cooler

A Absent

#### Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1710584-01A	Plastic 500ml H <sub>2</sub> SO <sub>4</sub> preserved	A	<2	3.1	Y	Absent	COD-410(28),NH3-350(28)
L1710584-01A1	Plastic 500ml H <sub>2</sub> SO <sub>4</sub> preserved	A	<2	3.1	Y	Absent	COD-410(28),NH3-350(28)
L1710584-01A2	Plastic 500ml H <sub>2</sub> SO <sub>4</sub> preserved	A	<2	3.1	Y	Absent	COD-410(28),NH3-350(28)
L1710584-01B	Plastic 950ml unpreserved	A	8	3.1	Y	Absent	CL-300(28),BOD-5210(2)
L1710584-01B1	Plastic 950ml unpreserved	A	8	3.1	Y	Absent	CL-300(28),BOD-5210(2)
L1710584-01B2	Plastic 950ml unpreserved	A	8	3.1	Y	Absent	CL-300(28),BOD-5210(2)
L1710584-02A	Plastic 500ml H <sub>2</sub> SO <sub>4</sub> preserved	A	<2	3.1	Y	Absent	COD-410(28),NH3-350(28)
L1710584-02B	Plastic 950ml unpreserved	A	8	3.1	Y	Absent	CL-300(28),BOD-5210(2)
L1710584-03A	Plastic 500ml H <sub>2</sub> SO <sub>4</sub> preserved	A	<2	3.1	Y	Absent	COD-410(28),NH3-350(28)
L1710584-03B	Plastic 950ml unpreserved	A	8	3.1	Y	Absent	CL-300(28),BOD-5210(2)
L1710584-04A	Plastic 500ml H <sub>2</sub> SO <sub>4</sub> preserved	A	<2	3.1	Y	Absent	COD-410(28),NH3-350(28)
L1710584-04B	Plastic 950ml unpreserved	A	8	3.1	Y	Absent	CL-300(28),BOD-5210(2)
L1710584-05A	Plastic 500ml H <sub>2</sub> SO <sub>4</sub> preserved	A	<2	3.1	Y	Absent	COD-410(28),NH3-350(28)
L1710584-05B	Plastic 950ml unpreserved	A	8	3.1	Y	Absent	CL-300(28),BOD-5210(2)
L1710584-06A	Plastic 500ml H <sub>2</sub> SO <sub>4</sub> preserved	A	<2	3.1	Y	Absent	COD-410(28),NH3-350(28)
L1710584-06B	Plastic 950ml unpreserved	A	8	3.1	Y	Absent	CL-300(28),BOD-5210(2)
L1710584-07A	Plastic 500ml H <sub>2</sub> SO <sub>4</sub> preserved	A	<2	3.1	Y	Absent	COD-410(28),NH3-350(28)
L1710584-07B	Plastic 950ml unpreserved	A	8	3.1	Y	Absent	CL-300(28),BOD-5210(2)
L1710584-08A	Plastic 60ml unpreserved	A	8	3.1	Y	Absent	CL-300(28)
L1710584-09A	Plastic 60ml unpreserved	A	8	3.1	Y	Absent	CL-300(28)
L1710584-10A	Plastic 60ml unpreserved	A	8	3.1	Y	Absent	CL-300(28)
L1710584-11A	Plastic 60ml unpreserved	A	8	3.1	Y	Absent	CL-300(28)
L1710584-12A	Plastic 60ml unpreserved	A	6	3.1	Y	Absent	CL-300(28)
L1710584-13A	Plastic 60ml unpreserved	A	8	3.1	Y	Absent	CL-300(28)
L1710584-14A	Plastic 500ml H <sub>2</sub> SO <sub>4</sub> preserved	A	<2	3.1	Y	Absent	COD-410(28),NH3-350(28)
L1710584-14B	Plastic 950ml unpreserved	A	8	3.1	Y	Absent	CL-300(28),BOD-5210(2)
L1710584-15A	Plastic 500ml H <sub>2</sub> SO <sub>4</sub> preserved	A	<2	3.1	Y	Absent	COD-410(28),NH3-350(28)
L1710584-15B	Plastic 950ml unpreserved	A	8	3.1	Y	Absent	CL-300(28),BOD-5210(2)

\*Values in parentheses indicate holding time in days

**Project Name:** L&RR  
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**Lab Number:** L1710584  
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## GLOSSARY

### **Acronyms**

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

### **Footnotes**

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### **Terms**

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### **Data Qualifiers**

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

**Report Format:** DU Report with 'J' Qualifiers



**Project Name:** L&RR  
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**Data Qualifiers**

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

*Report Format:* DU Report with 'J' Qualifiers



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710584  
**Report Date:** 04/12/17

## REFERENCES

- 44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at its own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

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**The following analytes are not included in our Primary NELAP Scope of Accreditation:**

**Westborough Facility**

EPA 624: m/p-xylene, o-xylene

EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 300: DW: Bromide

EPA 6860: NPW and SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

EPA 9012B: NPW: Total Cyanide

EPA 9050A: NPW: Specific Conductance

SM3500: NPW: Ferrous Iron

SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

SM5310C: DW: Dissolved Organic Carbon

**Mansfield Facility**

SM 2540D: TSS

EPA 3005A NPW

EPA 8082A: NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix**: EPA 3050B

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**The following analytes are included in our Massachusetts DEP Scope of Accreditation**

**Westborough Facility:**

**Drinking Water**

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C**, **SM4500CN-CE**, **EPA 180.1**,

**SM2130B**, **SM4500CI-D**, **SM2320B**, **SM2540C**, **SM4500H-B**

EPA 332: Perchlorate; **EPA 524.2**: THMs and VOCs; **EPA 504.1**: EDB, DBCP.

Microbiology: **SM9215B**; **SM9223-P/A**, **SM9223B-Colilert-QT**, **SM9222D**.

**Non-Potable Water**

**SM4500H,B**, **EPA 120.1**, **SM2510B**, **SM2540C**, **SM2320B**, **SM4500CL-E**, **SM4500F-BC**, **SM4500NH3-BH**, **EPA 350.1**: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, **SM4500NO3-F**, **EPA 353.2**: Nitrate-N, **EPA 351.1**, **SM4500P-E**, **SM4500P-B**, **E**, **SM4500SO4-E**, **SM5220D**, **EPA 410.4**,

**SM5210B**, **SM5310C**, **SM4500CL-D**, **EPA 1664**, **EPA 420.1**, **SM4500-CN-CE**, **SM2540D**.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.

Microbiology: **SM9223B-Colilert-QT**; **Enterolert-QT**, **SM9221E**.

**Mansfield Facility:**

**Drinking Water**

EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8**: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg**.

**Non-Potable Water**

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

EPA 245.1 Hg.

**SM2340B**

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For a complete listing of analytes and methods, please contact your Alpha Project Manager.



## **CHAIN OF CUSTODY**

PAGE 1 OF 3

MA MCP or CT RCP?

FORM NO. 6-4510  
(Rev. 5-JAN-12)

Page 30 of 31



# CHAIN OF CUSTODY

PAGE 2 OF 2

Westborough, MA Mansfield, MA  
 TEL: 508-898-9220 TEL: 508-822-9300  
 FAX: 508-898-9193 FAX: 508-822-3288

## Client Information

Client: Woodard & Curran	Project Name: L&RR
Address: 40 Shattuck Road Suite 40	Project #: 224263
Andover MA 01810	Project Manager: Samantha Olney

Phone: 866-702-6371	Turn-Around Time	
Fax: 978-557-7948	<input checked="" type="checkbox"/> Standard	<input type="checkbox"/> Rush (ONLY IF PRE-APPROVED)
Email: solney@Woodardcurran.com		

<input type="checkbox"/> These samples have been Previously analyzed by Alpha	Due Date: 10 DAY TAT	Time:
Other Project Specific Requirements/Comments/Detection Limits:  Reporting limit for 1-4 Dioxane must be below 1.6 ug/L, GW samples must meet RI GA Groundwater Objectives, SW Samples must meet RIDEM AWQCG, PDF report and GIS/Key EDD required, modified Tier II/TierPlus report, Hold extra set of VOC Vials for MW-102A low level and analize if TCE is J-Flagged below 5.0 ug/L.		
S06-3 IN OIL		

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	ANALYSIS												TOTAL BOTTLES
		Date	Time			Chloride 300.0	Ammonia 350.1	BOD SM5210B	COD 410.0									
10584-11	SW-16	4/5/17	1345	GW	RM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
-12	LCH-3		1400	GW	RM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
-13	LCH-8 LCH-5		1115	GW	RM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
-14	DUP-1		1156	GW	RM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
-01	MS - MW - 201		836	GW	RM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
-01	MSD - MW - 201		836	GW	RM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>								
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**L&RR  
PROJECT SUMMARY**

**Alpha Analytical Job Number: L1710584**

Validation was performed on the inorganic analytical data collected by Woodard & Curran, Inc. at the L&RR Site in North Smithfield, Rhode Island. The data validation was conducted in accordance with "USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review" January 2017; "EPA New England Environmental Data Review Supplement For Regional Data Review Elements and Superfund Specific Guidance/Procedures" April 2013, the Quality Assurance Project Plan (QAPP); and the referenced methods.

SDG	ANALYSES
L1710584	Cl, NH3, COD, BOD

Cl=Chloride by EPA Method 300.0; NH3=Ammonia by EPA Method 350.1; COD=Chemical Oxygen Demand by EPA Method 410.4; BOD=Biological Oxygen Demand by SM 5210B

Field Sample ID	Alpha Analytical ID
MW-201	L1710584-01
MW-202	L1710584-02
MW-102A	L1710584-03
MW-103A	L1710584-04
MW-104A	L1710584-05
CW-5B	L1710584-06
CW-7B	L1710584-07
SW-5	L1710584-08
SW-8	L1710584-09
SW-10	L1710584-10
SW-16	L1710584-11
LCH-3	L1710584-12
LCH-5	L1710584-13
DUP-1	L1710584-14
EQUIPMENT BLANK	L1710584-15

The data were evaluated and were based on the following parameters:

**Inorganics**

- Holding times
- Sample preservation
- Blank results
- Matrix spike and matrix spike duplicate results
- Laboratory duplicate results
- Field duplicates
- Laboratory control sample results

**L&RR  
PROJECT SUMMARY**

**Alpha Analytical Job Number: L1710584**

**Inorganics**

**Holding Times**

All Cl, NH<sub>3</sub>, COD, and BOD samples were digested and/or analyzed within technical holding times. No qualifications were applied to the data.

**Sample Preservation**

Samples were received at 3.1 degrees Celsius. No qualifications were applied to the data.

**Blank Results**

All Cl, NH<sub>3</sub>, COD, and BOD laboratory blanks were non-detect (ND). No qualifications were applied to the data.

Cl, NH<sub>3</sub>, COD, and BOD equipment blank sample, EQUIPMENT BLANK (L1710584-15), was ND for all target analytes. No qualifications were applied to the data.

**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Results**

The NH<sub>3</sub>, COD, and BOD MS performed on sample MW-201 (L1710584-01); the Cl MS/MSD performed on sample MW-201 (L1710584-01); and the chloride MS performed on sample MW-103A (L1710584-04) met acceptance criteria. No qualifications were applied to the data.

**Laboratory Duplicate Results**

The NH<sub>3</sub>, COD, and BOD laboratory duplicate performed on sample MW-201 (L1710584-01) and the Cl laboratory duplicate performed on sample MW-103A (L1710584-04) met acceptance criteria. No qualifications were applied to the data.

**Field Duplicates**

The Cl, NH<sub>3</sub>, COD, and BOD field duplicate samples MW-102A (L1710584-03)/DUP-1 (L1710584-14) met acceptance criteria. No qualifications were applied to the data.

**Laboratory Control Sample Results**

All Cl, NH<sub>3</sub>, COD, and BOD laboratory control samples (LCS) met acceptance criteria. No qualifications were applied to the data.

**L&RR**  
**PROJECT SUMMARY**

**Alpha Analytical Job Number: L1710584**

**Miscellaneous**

Cl in sample MW-202 (L1710584-02) was analyzed at a 5-fold dilution. The detection limit for Cl was raised in this sample due to the dilution performed because of the elevated concentration of target analytes and/or due to the sample matrix.

Data Check, Inc.  
P.O. Box 29  
81 Meaderboro Road  
New Durham, NH 03855

Gloria J. Switalski:  
President



Date: 4/07/2017



## ANALYTICAL REPORT

Lab Number:	L1710591
Client:	Woodard & Curran 40 Shattuck Road Suite 110 Andover, MA 01810
ATTN:	Mike Apfelbaum
Phone:	(978) 557-8150
Project Name:	L&RR
Project Number:	224263
Report Date:	04/12/17

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

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Eight Walkup Drive, Westborough, MA 01581-1019  
508-898-9220 (Fax) 508-898-9193 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710591  
**Report Date:** 04/12/17

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Matrix</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>	<b>Receive Date</b>
L1710591-01	MW-201	WATER	NORTH SMITHFIELD, RI	04/05/17 08:36	04/05/17
L1710591-02	MW-202	WATER	NORTH SMITHFIELD, RI	04/05/17 07:46	04/05/17
L1710591-03	MW-102A	WATER	NORTH SMITHFIELD, RI	04/05/17 11:56	04/05/17
L1710591-04	MW-103A	WATER	NORTH SMITHFIELD, RI	04/05/17 10:06	04/05/17
L1710591-05	MW-104A	WATER	NORTH SMITHFIELD, RI	04/05/17 14:51	04/05/17
L1710591-06	CW-5B	WATER	NORTH SMITHFIELD, RI	04/05/17 11:01	04/05/17
L1710591-07	CW-7B	WATER	NORTH SMITHFIELD, RI	04/05/17 13:07	04/05/17
L1710591-08	SW-5	WATER	NORTH SMITHFIELD, RI	04/05/17 09:20	04/05/17
L1710591-09	SW-8	WATER	NORTH SMITHFIELD, RI	04/05/17 12:20	04/05/17
L1710591-10	SW-10	WATER	NORTH SMITHFIELD, RI	04/05/17 13:37	04/05/17
L1710591-11	SW-16	WATER	NORTH SMITHFIELD, RI	04/05/17 13:45	04/05/17
L1710591-12	LCH-3	WATER	NORTH SMITHFIELD, RI	04/05/17 14:00	04/05/17
L1710591-13	LCH-5	WATER	NORTH SMITHFIELD, RI	04/05/17 11:15	04/05/17
L1710591-14	DUP-1	WATER	NORTH SMITHFIELD, RI	04/05/17 11:56	04/05/17
L1710591-15	EQUIPMENT BLANK	WATER	NORTH SMITHFIELD, RI	04/05/17 15:15	04/05/17

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710591  
**Report Date:** 04/12/17

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710591  
**Report Date:** 04/12/17

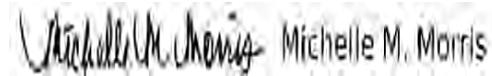
### Case Narrative (continued)

#### Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

A handwritten signature in black ink, appearing to read "Michelle M. Morris".

Title: Technical Director/Representative

Date: 04/12/17

## METALS



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710591  
**Report Date:** 04/12/17

**SAMPLE RESULTS**

Lab ID: L1710591-01  
Client ID: MW-201  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water

Date Collected: 04/05/17 08:36  
Date Received: 04/05/17  
Field Prep: Field Filtered  
(Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
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**Total Metals - Mansfield Lab**

Arsenic, Total	ND		mg/l	0.005	0.002	1	04/07/17 11:58	04/11/17 01:39	EPA 3005A	1,6010C	MC
Cadmium, Total	ND		mg/l	0.005	0.001	1	04/07/17 11:58	04/11/17 01:39	EPA 3005A	1,6010C	MC
Iron, Total	0.06		mg/l	0.05	0.01	1	04/07/17 11:58	04/11/17 01:39	EPA 3005A	1,6010C	MC
Lead, Total	ND		mg/l	0.010	0.003	1	04/07/17 11:58	04/11/17 01:39	EPA 3005A	1,6010C	MC
Manganese, Total	0.002	J	mg/l	0.010	0.002	1	04/07/17 11:58	04/11/17 01:39	EPA 3005A	1,6010C	MC

**Dissolved Metals - Mansfield Lab**

Arsenic, Dissolved	ND		mg/l	0.005	0.002	1	04/07/17 14:30	04/11/17 17:43	EPA 3005A	1,6010C	AB
Cadmium, Dissolved	ND		mg/l	0.005	0.001	1	04/07/17 14:30	04/11/17 17:43	EPA 3005A	1,6010C	AB
Lead, Dissolved	ND		mg/l	0.010	0.003	1	04/07/17 14:30	04/11/17 17:43	EPA 3005A	1,6010C	AB
Manganese, Dissolved	ND		mg/l	0.010	0.002	1	04/07/17 14:30	04/11/17 17:43	EPA 3005A	1,6010C	AB

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710591  
**Report Date:** 04/12/17

**SAMPLE RESULTS**

Lab ID: L1710591-02  
Client ID: MW-202  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water

Date Collected: 04/05/17 07:46  
Date Received: 04/05/17  
Field Prep: Field Filtered  
(Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
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**Total Metals - Mansfield Lab**

Arsenic, Total	ND	mg/l	0.005	0.002	1	04/07/17 11:58 04/11/17 01:56	EPA 3005A	1,6010C	MC
Cadmium, Total	ND	mg/l	0.005	0.001	1	04/07/17 11:58 04/11/17 01:56	EPA 3005A	1,6010C	MC
Iron, Total	0.23	mg/l	0.05	0.01	1	04/07/17 11:58 04/11/17 01:56	EPA 3005A	1,6010C	MC
Lead, Total	ND	mg/l	0.010	0.003	1	04/07/17 11:58 04/11/17 01:56	EPA 3005A	1,6010C	MC
Manganese, Total	0.047	mg/l	0.010	0.002	1	04/07/17 11:58 04/11/17 01:56	EPA 3005A	1,6010C	MC

**Dissolved Metals - Mansfield Lab**

Arsenic, Dissolved	ND	mg/l	0.005	0.002	1	04/07/17 14:30 04/11/17 18:14	EPA 3005A	1,6010C	AB
Cadmium, Dissolved	ND	mg/l	0.005	0.001	1	04/07/17 14:30 04/11/17 18:14	EPA 3005A	1,6010C	AB
Lead, Dissolved	ND	mg/l	0.010	0.003	1	04/07/17 14:30 04/11/17 18:14	EPA 3005A	1,6010C	AB
Manganese, Dissolved	0.047	mg/l	0.010	0.002	1	04/07/17 14:30 04/11/17 18:14	EPA 3005A	1,6010C	AB

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710591  
**Report Date:** 04/12/17

**SAMPLE RESULTS**

Lab ID: L1710591-03  
Client ID: MW-102A  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water

Date Collected: 04/05/17 11:56  
Date Received: 04/05/17  
Field Prep: Field Filtered  
(Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
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**Total Metals - Mansfield Lab**

Arsenic, Total	0.011		mg/l	0.005	0.002	1	04/07/17 11:58	04/11/17 02:22	EPA 3005A	1,6010C	MC
Cadmium, Total	ND		mg/l	0.005	0.001	1	04/07/17 11:58	04/11/17 02:22	EPA 3005A	1,6010C	MC
Iron, Total	28		mg/l	0.05	0.01	1	04/07/17 11:58	04/11/17 02:22	EPA 3005A	1,6010C	MC
Lead, Total	0.003	J	mg/l	0.010	0.003	1	04/07/17 11:58	04/11/17 02:22	EPA 3005A	1,6010C	MC
Manganese, Total	7.14		mg/l	0.010	0.002	1	04/07/17 11:58	04/11/17 02:22	EPA 3005A	1,6010C	MC

**Dissolved Metals - Mansfield Lab**

Arsenic, Dissolved	0.011		mg/l	0.005	0.002	1	04/07/17 14:30	04/11/17 18:19	EPA 3005A	1,6010C	AB
Cadmium, Dissolved	ND		mg/l	0.005	0.001	1	04/07/17 14:30	04/11/17 18:19	EPA 3005A	1,6010C	AB
Lead, Dissolved	ND		mg/l	0.010	0.003	1	04/07/17 14:30	04/11/17 18:19	EPA 3005A	1,6010C	AB
Manganese, Dissolved	8.22		mg/l	0.010	0.002	1	04/07/17 14:30	04/11/17 18:19	EPA 3005A	1,6010C	AB



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710591  
**Report Date:** 04/12/17

**SAMPLE RESULTS**

Lab ID: L1710591-04  
Client ID: MW-103A  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water

Date Collected: 04/05/17 10:06  
Date Received: 04/05/17  
Field Prep: Field Filtered  
(Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
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**Total Metals - Mansfield Lab**

Arsenic, Total	ND		mg/l	0.005	0.002	1	04/07/17 11:58	04/11/17 02:26	EPA 3005A	1,6010C	MC
Cadmium, Total	ND		mg/l	0.005	0.001	1	04/07/17 11:58	04/11/17 02:26	EPA 3005A	1,6010C	MC
Iron, Total	0.03	J	mg/l	0.05	0.01	1	04/07/17 11:58	04/11/17 02:26	EPA 3005A	1,6010C	MC
Lead, Total	ND		mg/l	0.010	0.003	1	04/07/17 11:58	04/11/17 02:26	EPA 3005A	1,6010C	MC
Manganese, Total	0.055		mg/l	0.010	0.002	1	04/07/17 11:58	04/11/17 02:26	EPA 3005A	1,6010C	MC

**Dissolved Metals - Mansfield Lab**

Arsenic, Dissolved	0.002	J	mg/l	0.005	0.002	1	04/07/17 14:30	04/11/17 18:23	EPA 3005A	1,6010C	AB
Cadmium, Dissolved	ND		mg/l	0.005	0.001	1	04/07/17 14:30	04/11/17 18:23	EPA 3005A	1,6010C	AB
Lead, Dissolved	ND		mg/l	0.010	0.003	1	04/07/17 14:30	04/11/17 18:23	EPA 3005A	1,6010C	AB
Manganese, Dissolved	0.058		mg/l	0.010	0.002	1	04/07/17 14:30	04/11/17 18:23	EPA 3005A	1,6010C	AB



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710591  
**Report Date:** 04/12/17

**SAMPLE RESULTS**

Lab ID: L1710591-05  
Client ID: MW-104A  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water

Date Collected: 04/05/17 14:51  
Date Received: 04/05/17  
Field Prep: Field Filtered  
(Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
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**Total Metals - Mansfield Lab**

Arsenic, Total	0.017		mg/l	0.005	0.002	1	04/07/17 11:58	04/11/17 02:30	EPA 3005A	1,6010C	MC
Cadmium, Total	ND		mg/l	0.005	0.001	1	04/07/17 11:58	04/11/17 02:30	EPA 3005A	1,6010C	MC
Iron, Total	5.8		mg/l	0.05	0.01	1	04/07/17 11:58	04/11/17 02:30	EPA 3005A	1,6010C	MC
Lead, Total	ND		mg/l	0.010	0.003	1	04/07/17 11:58	04/11/17 02:30	EPA 3005A	1,6010C	MC
Manganese, Total	0.189		mg/l	0.010	0.002	1	04/07/17 11:58	04/11/17 02:30	EPA 3005A	1,6010C	MC

**Dissolved Metals - Mansfield Lab**

Arsenic, Dissolved	0.007		mg/l	0.005	0.002	1	04/07/17 14:30	04/11/17 18:28	EPA 3005A	1,6010C	AB
Cadmium, Dissolved	ND		mg/l	0.005	0.001	1	04/07/17 14:30	04/11/17 18:28	EPA 3005A	1,6010C	AB
Lead, Dissolved	ND		mg/l	0.010	0.003	1	04/07/17 14:30	04/11/17 18:28	EPA 3005A	1,6010C	AB
Manganese, Dissolved	0.196		mg/l	0.010	0.002	1	04/07/17 14:30	04/11/17 18:28	EPA 3005A	1,6010C	AB



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710591  
**Report Date:** 04/12/17

**SAMPLE RESULTS**

Lab ID: L1710591-06  
Client ID: CW-5B  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water

Date Collected: 04/05/17 11:01  
Date Received: 04/05/17  
Field Prep: Field Filtered  
(Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
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**Total Metals - Mansfield Lab**

Arsenic, Total	ND		mg/l	0.005	0.002	1	04/07/17 11:58	04/11/17 02:35	EPA 3005A	1,6010C	MC
Cadmium, Total	ND		mg/l	0.005	0.001	1	04/07/17 11:58	04/11/17 02:35	EPA 3005A	1,6010C	MC
Iron, Total	0.02	J	mg/l	0.05	0.01	1	04/07/17 11:58	04/11/17 02:35	EPA 3005A	1,6010C	MC
Lead, Total	ND		mg/l	0.010	0.003	1	04/07/17 11:58	04/11/17 02:35	EPA 3005A	1,6010C	MC
Manganese, Total	3.52		mg/l	0.010	0.002	1	04/07/17 11:58	04/11/17 02:35	EPA 3005A	1,6010C	MC

**Dissolved Metals - Mansfield Lab**

Arsenic, Dissolved	ND		mg/l	0.005	0.002	1	04/07/17 14:30	04/11/17 18:33	EPA 3005A	1,6010C	AB
Cadmium, Dissolved	ND		mg/l	0.005	0.001	1	04/07/17 14:30	04/11/17 18:33	EPA 3005A	1,6010C	AB
Lead, Dissolved	ND		mg/l	0.010	0.003	1	04/07/17 14:30	04/11/17 18:33	EPA 3005A	1,6010C	AB
Manganese, Dissolved	3.93		mg/l	0.010	0.002	1	04/07/17 14:30	04/11/17 18:33	EPA 3005A	1,6010C	AB



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710591  
**Report Date:** 04/12/17

**SAMPLE RESULTS**

Lab ID:	L1710591-07	Date Collected:	04/05/17 13:07
Client ID:	CW-7B	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Field Filtered
Matrix:	Water		(Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
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**Total Metals - Mansfield Lab**

Arsenic, Total	0.002	J	mg/l	0.005	0.002	1	04/07/17 11:58	04/11/17 02:39	EPA 3005A	1,6010C	MC
Cadmium, Total	ND		mg/l	0.005	0.001	1	04/07/17 11:58	04/11/17 02:39	EPA 3005A	1,6010C	MC
Iron, Total	1.7		mg/l	0.05	0.01	1	04/07/17 11:58	04/11/17 02:39	EPA 3005A	1,6010C	MC
Lead, Total	ND		mg/l	0.010	0.003	1	04/07/17 11:58	04/11/17 02:39	EPA 3005A	1,6010C	MC
Manganese, Total	1.22		mg/l	0.010	0.002	1	04/07/17 11:58	04/11/17 02:39	EPA 3005A	1,6010C	MC

**Dissolved Metals - Mansfield Lab**

Arsenic, Dissolved	ND		mg/l	0.005	0.002	1	04/07/17 14:30	04/11/17 18:37	EPA 3005A	1,6010C	AB
Cadmium, Dissolved	ND		mg/l	0.005	0.001	1	04/07/17 14:30	04/11/17 18:37	EPA 3005A	1,6010C	AB
Lead, Dissolved	ND		mg/l	0.010	0.003	1	04/07/17 14:30	04/11/17 18:37	EPA 3005A	1,6010C	AB
Manganese, Dissolved	1.32		mg/l	0.010	0.002	1	04/07/17 14:30	04/11/17 18:37	EPA 3005A	1,6010C	AB



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710591  
**Report Date:** 04/12/17

**SAMPLE RESULTS**

Lab ID: L1710591-08  
Client ID: SW-5  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water

Date Collected: 04/05/17 09:20  
Date Received: 04/05/17  
Field Prep: Field Filtered  
(Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
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**Total Metals - Mansfield Lab**

Arsenic, Total	ND		mg/l	0.005	0.002	1	04/07/17 11:58	04/11/17 02:43	EPA 3005A	1,6010C	MC
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**Dissolved Metals - Mansfield Lab**

Arsenic, Dissolved	ND		mg/l	0.005	0.002	1	04/07/17 14:30	04/11/17 18:42	EPA 3005A	1,6010C	AB
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**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710591  
**Report Date:** 04/12/17

**SAMPLE RESULTS**

Lab ID: L1710591-09  
Client ID: SW-8  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water

Date Collected: 04/05/17 12:20  
Date Received: 04/05/17  
Field Prep: Field Filtered  
(Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
<b>Total Metals - Mansfield Lab</b>											
Arsenic, Total	0.224		mg/l	0.005	0.002	1	04/07/17 11:58	04/11/17 02:48	EPA 3005A	1,6010C	MC

**Dissolved Metals - Mansfield Lab**

Arsenic, Dissolved	0.007		mg/l	0.005	0.002	1	04/07/17 14:30	04/11/17 18:46	EPA 3005A	1,6010C	AB
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**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710591  
**Report Date:** 04/12/17

**SAMPLE RESULTS**

Lab ID: L1710591-10  
Client ID: SW-10  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water

Date Collected: 04/05/17 13:37  
Date Received: 04/05/17  
Field Prep: Field Filtered  
(Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
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**Total Metals - Mansfield Lab**

Arsenic, Total	0.004	J	mg/l	0.005	0.002	1	04/07/17 11:58	04/11/17 02:52	EPA 3005A	1,6010C	MC
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**Dissolved Metals - Mansfield Lab**

Arsenic, Dissolved	0.002	J	mg/l	0.005	0.002	1	04/07/17 14:30	04/11/17 18:51	EPA 3005A	1,6010C	AB
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**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710591  
**Report Date:** 04/12/17

**SAMPLE RESULTS**

Lab ID: L1710591-11  
Client ID: SW-16  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water

Date Collected: 04/05/17 13:45  
Date Received: 04/05/17  
Field Prep: Field Filtered  
(Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
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**Total Metals - Mansfield Lab**

Arsenic, Total	ND		mg/l	0.005	0.002	1	04/07/17 11:58	04/11/17 03:13	EPA 3005A	1,6010C	MC
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**Dissolved Metals - Mansfield Lab**

Arsenic, Dissolved	ND		mg/l	0.005	0.002	1	04/07/17 14:30	04/11/17 18:55	EPA 3005A	1,6010C	AB
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**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710591  
**Report Date:** 04/12/17

**SAMPLE RESULTS**

Lab ID: L1710591-12  
Client ID: LCH-3  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water

Date Collected: 04/05/17 14:00  
Date Received: 04/05/17  
Field Prep: Field Filtered  
(Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
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**Total Metals - Mansfield Lab**

Arsenic, Total	0.002	J	mg/l	0.005	0.002	1	04/07/17 11:58	04/11/17 03:18	EPA 3005A	1,6010C	MC
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**Dissolved Metals - Mansfield Lab**

Arsenic, Dissolved	ND		mg/l	0.005	0.002	1	04/07/17 14:30	04/11/17 19:13	EPA 3005A	1,6010C	AB
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**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710591  
**Report Date:** 04/12/17

**SAMPLE RESULTS**

Lab ID: L1710591-13  
Client ID: LCH-5  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water

Date Collected: 04/05/17 11:15  
Date Received: 04/05/17  
Field Prep: Field Filtered  
(Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
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**Total Metals - Mansfield Lab**

Arsenic, Total	ND		mg/l	0.005	0.002	1	04/07/17 11:58	04/11/17 03:22	EPA 3005A	1,6010C	MC
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**Dissolved Metals - Mansfield Lab**

Arsenic, Dissolved	ND		mg/l	0.005	0.002	1	04/07/17 14:30	04/11/17 19:18	EPA 3005A	1,6010C	AB
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**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710591  
**Report Date:** 04/12/17

**SAMPLE RESULTS**

Lab ID:	L1710591-14	Date Collected:	04/05/17 11:56
Client ID:	DUP-1	Date Received:	04/05/17
Sample Location:	NORTH SMITHFIELD, RI	Field Prep:	Field Filtered
Matrix:	Water		(Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
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**Total Metals - Mansfield Lab**

Arsenic, Total	0.012	mg/l	0.005	0.002	1	04/07/17 11:58 04/11/17 03:26	EPA 3005A	1,6010C	MC
Cadmium, Total	ND	mg/l	0.005	0.001	1	04/07/17 11:58 04/11/17 03:26	EPA 3005A	1,6010C	MC
Iron, Total	28	mg/l	0.05	0.01	1	04/07/17 11:58 04/11/17 03:26	EPA 3005A	1,6010C	MC
Lead, Total	ND	mg/l	0.010	0.003	1	04/07/17 11:58 04/11/17 03:26	EPA 3005A	1,6010C	MC
Manganese, Total	7.34	mg/l	0.010	0.002	1	04/07/17 11:58 04/11/17 03:26	EPA 3005A	1,6010C	MC

**Dissolved Metals - Mansfield Lab**

Arsenic, Dissolved	0.013	mg/l	0.005	0.002	1	04/07/17 14:30 04/11/17 19:22	EPA 3005A	1,6010C	AB
Cadmium, Dissolved	ND	mg/l	0.005	0.001	1	04/07/17 14:30 04/11/17 19:22	EPA 3005A	1,6010C	AB
Lead, Dissolved	ND	mg/l	0.010	0.003	1	04/07/17 14:30 04/11/17 19:22	EPA 3005A	1,6010C	AB
Manganese, Dissolved	8.30	mg/l	0.010	0.002	1	04/07/17 14:30 04/11/17 19:22	EPA 3005A	1,6010C	AB



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710591  
**Report Date:** 04/12/17

**SAMPLE RESULTS**

Lab ID: L1710591-15  
Client ID: EQUIPMENT BLANK  
Sample Location: NORTH SMITHFIELD, RI  
Matrix: Water

Date Collected: 04/05/17 15:15  
Date Received: 04/05/17  
Field Prep: Field Filtered  
(Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
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**Total Metals - Mansfield Lab**

Arsenic, Total	ND		mg/l	0.005	0.002	1	04/07/17 11:58	04/11/17 03:30	EPA 3005A	1,6010C	MC
Cadmium, Total	ND		mg/l	0.005	0.001	1	04/07/17 11:58	04/11/17 03:30	EPA 3005A	1,6010C	MC
Iron, Total	0.01	J	mg/l	0.05	0.01	1	04/07/17 11:58	04/11/17 03:30	EPA 3005A	1,6010C	MC
Lead, Total	ND		mg/l	0.010	0.003	1	04/07/17 11:58	04/11/17 03:30	EPA 3005A	1,6010C	MC
Manganese, Total	ND		mg/l	0.010	0.002	1	04/07/17 11:58	04/11/17 03:30	EPA 3005A	1,6010C	MC



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710591  
**Report Date:** 04/12/17

## Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst	
<b>Total Metals - Mansfield Lab for sample(s): 01-15 Batch: WG992099-1</b>										
Arsenic, Total	ND	mg/l	0.005	0.002	1	04/07/17 11:58	04/11/17 01:31	1,6010C	MC	
Cadmium, Total	ND	mg/l	0.005	0.001	1	04/07/17 11:58	04/11/17 01:31	1,6010C	MC	
Iron, Total	0.01	J	mg/l	0.05	0.01	1	04/07/17 11:58	04/11/17 01:31	1,6010C	MC
Lead, Total	ND	mg/l	0.010	0.003	1	04/07/17 11:58	04/11/17 01:31	1,6010C	MC	
Manganese, Total	ND	mg/l	0.010	0.002	1	04/07/17 11:58	04/11/17 01:31	1,6010C	MC	

### **Prep Information**

Digestion Method: EPA 3005A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
<b>Dissolved Metals - Mansfield Lab for sample(s): 01-14 Batch: WG992166-1</b>									
Arsenic, Dissolved	ND	mg/l	0.005	0.002	1	04/07/17 14:30	04/11/17 17:21	1,6010C	AB
Cadmium, Dissolved	ND	mg/l	0.005	0.001	1	04/07/17 14:30	04/11/17 17:21	1,6010C	AB
Lead, Dissolved	ND	mg/l	0.010	0.003	1	04/07/17 14:30	04/11/17 17:21	1,6010C	AB
Manganese, Dissolved	ND	mg/l	0.010	0.002	1	04/07/17 14:30	04/11/17 17:21	1,6010C	AB

### **Prep Information**

Digestion Method: EPA 3005A

# Lab Control Sample Analysis

## Batch Quality Control

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710591  
**Report Date:** 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
<b>Total Metals - Mansfield Lab</b> Associated sample(s): 01-15 Batch: WG992099-2								
Arsenic, Total	108	-	-	-	80-120	-	-	-
Cadmium, Total	104	-	-	-	80-120	-	-	-
Iron, Total	91	-	-	-	80-120	-	-	-
Lead, Total	102	-	-	-	80-120	-	-	-
Manganese, Total	86	-	-	-	80-120	-	-	-
<b>Dissolved Metals - Mansfield Lab</b> Associated sample(s): 01-14 Batch: WG992166-2								
Arsenic, Dissolved	117	-	-	-	80-120	-	-	-
Cadmium, Dissolved	114	-	-	-	80-120	-	-	-
Lead, Dissolved	109	-	-	-	80-120	-	-	-
Manganese, Dissolved	103	-	-	-	80-120	-	-	-

**Matrix Spike Analysis**  
**Batch Quality Control**

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710591  
**Report Date:** 04/12/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
<b>Total Metals - Mansfield Lab Associated sample(s): 01-15 QC Batch ID: WG992099-3 WG992099-4 QC Sample: L1710591-01 Client ID: MW-201</b>												
Arsenic, Total	ND	0.12	0.132	110		0.131	109		75-125	1		20
Cadmium, Total	ND	0.051	0.053	105		0.053	104		75-125	0		20
Iron, Total	0.06	1	1.0	94		0.98	92		75-125	2		20
Lead, Total	ND	0.51	0.528	104		0.524	103		75-125	1		20
Manganese, Total	0.002J	0.5	0.444	89		0.438	88		75-125	1		20
<b>Dissolved Metals - Mansfield Lab Associated sample(s): 01-14 QC Batch ID: WG992166-3 WG992166-4 QC Sample: L1710591-01 Client ID: MW-201</b>												
Arsenic, Dissolved	ND	0.12	0.138	115		0.138	115		75-125	0		20
Cadmium, Dissolved	ND	0.051	0.058	113		0.057	112		75-125	1		20
Lead, Dissolved	ND	0.51	0.549	108		0.548	107		75-125	0		20
Manganese, Dissolved	ND	0.5	0.514	103		0.515	103		75-125	0		20

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710591  
**Report Date:** 04/12/17

### Sample Receipt and Container Information

Were project specific reporting limits specified? YES

#### Cooler Information Custody Seal

##### Cooler

A Absent

#### Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1710591-01A	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	AS-TI(180),PB-TI(180),FE-TI(180),MN-TI(180),CD-TI(180)
L1710591-01A1	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	AS-TI(180),PB-TI(180),FE-TI(180),MN-TI(180),CD-TI(180)
L1710591-01A2	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	AS-TI(180),PB-TI(180),FE-TI(180),MN-TI(180),CD-TI(180)
L1710591-01B	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	PB-SI(180),AS-SI(180),MN-SI(180),CD-SI(180)
L1710591-01B1	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	PB-SI(180),AS-SI(180),MN-SI(180),CD-SI(180)
L1710591-01B2	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	PB-SI(180),AS-SI(180),MN-SI(180),CD-SI(180)
L1710591-02A	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	PB-SI(180),AS-SI(180),MN-SI(180),CD-SI(180)
L1710591-02B	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	AS-TI(180),PB-TI(180),FE-TI(180),MN-TI(180),CD-TI(180)
L1710591-03A	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	PB-SI(180),AS-SI(180),MN-SI(180),CD-SI(180)
L1710591-03B	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	AS-TI(180),PB-TI(180),FE-TI(180),MN-TI(180),CD-TI(180)
L1710591-04A	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	PB-SI(180),AS-SI(180),MN-SI(180),CD-SI(180)
L1710591-04B	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	AS-TI(180),PB-TI(180),FE-TI(180),MN-TI(180),CD-TI(180)
L1710591-05A	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	PB-SI(180),AS-SI(180),MN-SI(180),CD-SI(180)
L1710591-05B	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	AS-TI(180),PB-TI(180),FE-TI(180),MN-TI(180),CD-TI(180)
L1710591-06A	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	PB-SI(180),AS-SI(180),MN-SI(180),CD-SI(180)
L1710591-06B	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	AS-TI(180),PB-TI(180),FE-TI(180),MN-TI(180),CD-TI(180)
L1710591-07A	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	PB-SI(180),AS-SI(180),MN-SI(180),CD-SI(180)
L1710591-07B	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	AS-TI(180),PB-TI(180),FE-TI(180),MN-TI(180),CD-TI(180)
L1710591-08A	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	AS-TI(180)
L1710591-08B	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	AS-SI(180)
L1710591-09A	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	AS-TI(180)
L1710591-09B	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	AS-SI(180)

\*Values in parentheses indicate holding time in days

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710591  
**Report Date:** 04/12/17

**Container Information**

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1710591-10A	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	AS-TI(180)
L1710591-10B	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	AS-SI(180)
L1710591-11A	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	AS-TI(180)
L1710591-11B	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	AS-SI(180)
L1710591-12A	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	AS-TI(180)
L1710591-12B	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	AS-SI(180)
L1710591-13A	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	AS-TI(180)
L1710591-13B	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	AS-SI(180)
L1710591-14A	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	PB-SI(180),AS-SI(180),MN-SI(180),CD-SI(180)
L1710591-14B	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	AS-TI(180),PB-TI(180),FE-TI(180),MN-TI(180),CD-TI(180)
L1710591-15A	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	HOLD-METAL-DISSOLVED(180)
L1710591-15B	Plastic 250ml HNO3 preserved	A	<2	5.2	Y	Absent	AS-TI(180),PB-TI(180),FE-TI(180),MN-TI(180),CD-TI(180)

\*Values in parentheses indicate holding time in days

**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710591  
**Report Date:** 04/12/17

## GLOSSARY

### **Acronyms**

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

### **Footnotes**

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### **Terms**

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### **Data Qualifiers**

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

**Report Format:** DU Report with 'J' Qualifiers



**Project Name:** L&RR  
**Project Number:** 224263

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**Report Date:** 04/12/17

**Data Qualifiers**

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

*Report Format:* DU Report with 'J' Qualifiers



**Project Name:** L&RR  
**Project Number:** 224263

**Lab Number:** L1710591  
**Report Date:** 04/12/17

## REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at its own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

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**The following analytes are not included in our Primary NELAP Scope of Accreditation:**

**Westborough Facility**

EPA 624: m/p-xylene, o-xylene  
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.  
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.  
EPA 300: DW: Bromide  
EPA 6860: NPW and SCM: Perchlorate  
EPA 9010: NPW and SCM: Amenable Cyanide Distillation  
EPA 9012B: NPW: Total Cyanide  
EPA 9050A: NPW: Specific Conductance  
SM3500: NPW: Ferrous Iron  
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.  
SM5310C: DW: Dissolved Organic Carbon

**Mansfield Facility**

SM 2540D: TSS  
EPA 3005A NPW  
EPA 8082A: NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.  
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.  
Biological Tissue Matrix: EPA 3050B

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**The following analytes are included in our Massachusetts DEP Scope of Accreditation**

**Westborough Facility:**

**Drinking Water**

EPA 300.0: Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C**, **SM4500CN-CE**, **EPA 180.1**, **SM2130B**, **SM4500CI-D**, **SM2320B**, **SM2540C**, **SM4500H-B**  
EPA 332: Perchlorate; EPA 524.2: THMs and VOCs; EPA 504.1: EDB, DBCP.  
Microbiology: **SM9215B**; **SM9223-P/A**, **SM9223B-Colilert-QT**,**SM9222D**.

**Non-Potable Water**

**SM4500H,B**, **EPA 120.1**, **SM2510B**, **SM2540C**, **SM2320B**, **SM4500CL-E**, **SM4500F-BC**, **SM4500NH3-BH**, **EPA 350.1**: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, **SM4500NO3-F**, **EPA 353.2**: Nitrate-N, **EPA 351.1**, **SM4500P-E**, **SM4500P-B**, **E**, **SM4500SO4-E**, **SM5220D**, **EPA 410.4**, **SM5210B**, **SM5310C**, **SM4500CL-D**, **EPA 1664**, **EPA 420.1**, **SM4500-CN-CE**, **SM2540D**.  
**EPA 624**: Volatile Halocarbons & Aromatics,  
**EPA 608**: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs  
**EPA 625**: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.  
Microbiology: **SM9223B-Colilert-QT**; **Enterolert-QT**, **SM9221E**.

**Mansfield Facility:**

**Drinking Water**

**EPA 200.7**: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8**: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg**.

**Non-Potable Water**

**EPA 200.7**: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.  
**EPA 200.8**: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.  
**EPA 245.1 Hg**.  
**SM2340B**

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For a complete listing of analytes and methods, please contact your Alpha Project Manager.



# CHAIN OF CUSTODY

PAGE 1 OF 2

Westborough, MA      Mansfield, MA  
 TEL: 508-898-9220      TEL: 508-822-9300  
 FAX: 508-898-6193      FAX: 508-822-3288

## Client Information

Client: Woodard &amp; Curran

Address: 40 Shattuck Road Suite 40

Andover MA 01810

Phone: 866-702-6371

Fax: 978-557-7948

Email: solney@Woodardcurran.com

 These samples have been Previously analyzed by Alpha

Project Name: L&amp;RR

Project Location: North Smithfield RI

Project #: 224263

Project Manager: Samantha Olney

ALPHA Quote #:

## Turn-Around Time

 Standard       Rush (ONLY IF PRE-APPROVED)

Due Date: 10 DAY TAT      Time:

## Other Project Specific Requirements/Comments/Detection Limits:

Reporting limit for 1-4 Dioxane must be below 1.6 ug/L, GW samples must meet RI GA Groundwater Objectives, SW Samples must meet RIDEM AWQCQG, PDF report and GIS/Key EDD required. modified Tier II/TierPlus report, Hold extra set of VOC Vials for MW-102A low level and analize if TCE is J-Flagged below 5.0 ug/L.

SDG-Z  
Metrical

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State/Fed Program										
Criteria										
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## **CHAIN OF CUSTODY**

PAGE 2 OF 2

**Westborough, MA**      **Mansfield, MA**  
TEL: 508-898-8220      TEL: 508-822-8300  
FAX: 508-898-8193      FAX: 508-822-3288

## **Client Information**

Client: Woodard & Curran

Address: 40 Shattuck Road Suite 40

Andover MA 01810 ALPHA Quote #:

Phone: 866-702-637

Phone: 866-702-6371 Turn-Around Time

Fax: 978-557-7943

Email: solney@Woodardcurran.com

These samples have been previously analyzed by Alpha

Preprint Name: I & BB

**Project Location: North Smithfield RI**

Project #: 224263

Project Manager: Samantha Olney

ALPHA Quote #:

### Turn-Around Time

Standard       Bush (ONLY IF PRE-APPROVED)

Due Date: 10 DAY TAT Time:

**Other Project Specific Requirements/Comments/Detection Limits:**

Reporting limit for 1-4 Dioxane must be below 1.6 ug/L, GW samples must meet RI GA Groundwater Objectives, SW Samples must meet RIDEM AWQCG, PDF report and GIS/Key EDD required, modified Tier II/TierPlus report, Hold extra set of VOC Vials for MW-102A low level and analize if TCE is J-Flagged below 5.0 ug/L.

**PLEASE ANSWER QUESTIONS ABOVE!**

**IS YOUR PROJECT  
MA MCP or CT RCP?**

FORM MC-01-01  
(REV 5-JAN-12)

	Container Type	-	-	-	-	-	-	-	-	-	-	-
	Preservative	-	-	-	-	-	-	-	-	-	-	-
	Relinquished By:		Date/Time		Received By:		Date/Time					
		4/5/17 16:55		Ronald Scott			4/5/17 16:55					

**L&RR  
PROJECT SUMMARY**

**Alpha Analytical Job Number: L1710591**

Validation was performed on the inorganic analytical data collected by Woodard & Curran, Inc. at the L&RR Site in North Smithfield, Rhode Island. The data validation was conducted in accordance with "USEPA National Functional Guidelines for Inorganic Superfund Methods Data Review" January 2017; "EPA New England Environmental Data Review Supplement For Regional Data Review Elements and Superfund Specific Guidance/Procedures" April 2013, the Quality Assurance Project Plan (QAPP); and the referenced methods.

SDG	ANALYSES
L1710591	As, Cd, Mn, Fe, Pb (total) & As, Cd, Mn, Pb (dissolved)

As, Cd, Mn, Pb (total & dissolved)=Arsenic, cadmium, manganese, and lead (total & dissolved) by SW846 Methods 3005A/6010C; Fe=Iron (total) by SW846 Methods 3005A/6010C

Field Sample ID	Alpha Analytical ID
MW-201	L1710591-01
MW-202	L1710591-02
MW-102A	L1710591-03
MW-103A	L1710591-04
MW-104A	L1710591-05
CW-5B	L1710591-06
CW-7B	L1710591-07
SW-5	L1710591-08
SW-8	L1710591-09
SW-10	L1710591-10
SW-16	L1710591-11
LCH-3	L1710591-12
LCH-5	L1710591-13
DUP-1	L1710591-14
EQUIPMENT BLANK	L1710591-15

The data were evaluated and were based on the following parameters:

**Inorganics**

- Holding times
- Sample preservation
- Blank results
- Matrix spike and matrix spike duplicate results
- Laboratory duplicate results
- Field duplicates
- Laboratory control sample results

**L&RR  
PROJECT SUMMARY**

**Alpha Analytical Job Number: L1710591**

**Inorganics**

**Holding Times**

All As, Cd, Mn, Fe, Pb (total) & As, Cd, Mn, Pb (dissolved) samples were digested and/or analyzed within technical holding times. No qualifications were applied to the data.

**Sample Preservation**

Samples were received at 5.2 degrees Celsius. No qualifications were applied to the data.

**Blank Results**

All As, Cd, Mn, Fe, Pb (total) & As, Cd, Mn, Pb (dissolved) method blanks were non-detect (ND) for all analytes for all target analytes with the following exception:

<b>Blank ID</b>	<b>Compound</b>	<b>Concentration</b>	<b>Impacted Samples</b>	<b>Qualifier</b>
WG992099-1	Fe (total)	0.01 mg/L	All L1710591	U@RL, L1710591-04, -06, -15

RL=reporting limit

As, Cd, Mn, Fe, Pb (total) & As, Cd, Mn, Pb (dissolved) equipment blank sample, EQUIPMENT BLANK (L1710591-15), was ND for all target analytes with the following exception:

<b>Blank ID</b>	<b>Compound</b>	<b>Concentration</b>	<b>Impacted Samples</b>	<b>Qualifier</b>
EQUIPMENT BLANK	Fe (total)	0.01 mg/L	All L1710591	None, ultimately qualified U@RL as noted above.

**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Results**

The As, Cd, Mn, Fe, Pb (total) & As, Cd, Mn, Pb (dissolved) MS/MSD performed on sample MW-201 (L1710591-01) met acceptance criteria. No qualifications were applied to the data.

**Laboratory Duplicate Results**

No As, Cd, Mn, Fe, Pb (total) & As, Cd, Mn, Pb (dissolved) laboratory duplicate was performed on a sample from this analytical package. No qualifications were applied to the data.

**Field Duplicates**

The As, Cd, Mn, Fe, Pb (total) & As, Cd, Mn, Pb (dissolved) field duplicate samples MW-102A (L1710591-03)/DUP-1 (L1710591-14) met acceptance criteria. No qualifications were applied to the data.

**L&RR  
PROJECT SUMMARY**

**Alpha Analytical Job Number: L1710591**

**Laboratory Control Sample Results**

All As, Cd, Mn, Fe, Pb (total) & As, Cd, Mn, Pb (dissolved) laboratory control samples (LCS) met acceptance criteria. No qualifications were applied to the data.

Data Check, Inc.  
P.O. Box 29  
81 Meaderboro Road  
New Durham, NH 03855

Gloria J. Switalski:  
President



Date: 4/27/2017



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## APPENDIX C: GFS SAMPLING REPORT



# GEOLOGICAL FIELD SERVICES, INC.

April 18, 2017

Ms. Samantha Olney  
Woodard & Curran  
40 Shattuck Road, Suite 110  
Andover, MA 01810

RE: L&RR Landfill, Rt. 7 North Smithfield RI  
Ground and Surface Water Sampling

Dear Ms. Olney,

On April 5, 2017, Geological Field Services, Inc. (GFS) personnel conducted environmental sampling activities at the above referenced property. Activities included sampling seven monitoring wells and six surface water locations at the site. Ground water samples were collected from seven wells identified as MW-201, MW-202, CW-5B, MW-102A, MW-103A, MW-104A and CW-7B. Surface water samples were collected from the locations identified as SW-5, SW-8, SW-10, SW-16 LCH-3 and LCH-5. The following is a description of related field activities.

### **Surface Water Sample Collection**

On April 5, 2017, GFS collected six surface water samples identified as SW-5, SW-8, SW-10, SW-16, LCH-3 and LCH-5 were collected from the areas as closely identified on the site map. Surface water samples SW-5, SW-8, SW-10, SW-16, LCH-3 and LCH-5 were collected with a Geotech peristaltic sampling pump and virgin tubing to minimize the addition of sediment to the sample. Field parameters were measured at each sample location and recorded on the attached field sheets. Surface water samples collected for dissolved metals analysis were field filtered through a 0.45-micron filter prior to preservation in the field. All of the surface water samples were packed on ice and delivered to Alpha Analytical Laboratories on April 5, 2017; a copy of the chain of custody is attached.

### **Ground Water Sample Collection**

On April 5, 2017, seven monitoring wells identified as MW-201, MW-202, CW-5B, MW-102A, MW-103A, MW-104A and CW-7B. All of the wells were sampled using dedicated QED bladder pumps except monitoring wells MW-104A and CW-7B; a Durham Geoslope (DGSI) bladder pump was used for sample collection. The DGSI sampling pump was decontaminated prior to the introduction to the well and after removal form the well with a series of Alconox and de-ionized water rinses. After the DGSI pump was cleaned, an Equipment Blank (EB) sample was collected by running laboratory grade De-ionized water through the pump into appropriate sample bottles.

Prior to purging, the ground water level in each monitoring well was measured to the nearest 0.01 foot using an electronic water level sensing device. The depth to water and historical well depth measurements were used to calculate the volume of standing water in the well. Prior to purging, all wells were examined for the presence of free-phase petroleum product by observing the condition of the water level indicator when it was withdrawn from the well. No free-phase petroleum product was observed. Monitoring wells MW-201, MW-202, CW-5B, MW-102A, MW-103A and MW-104A were then purged using dedicated bladder sampling pumps and dedicated HDPE tubing. Monitoring well CW-7B was purged and sampled using a Durham Geoslope bladder pump. Temperature, specific conductivity, dissolved oxygen, pH and oxidation-reduction potential were measured using a YSI 556 meter. The YSI was calibrated at the start of the sampling day. Specific conductivity was calibrated using a 1,413-umhos/cm standard and dissolved oxygen was calibrated using the 100% saturation procedure. PH was calibrated using the three-point method using pH 4, 7 and 10 standards. Turbidity was measured using a Hach 2100Q turbidity

meter calibrated with a 10.0 NTU standard at the start of the sampling day. At the end of the sampling day the equipment calibration drift was checked with the same standards used during the morning calibration. A table summarizing the field calibration is attached.

All of the monitoring wells were sampled in accordance with EPA's low flow sampling protocol. The bladder pump was started on the lowest setting and the draw down on the well was monitored. The pumping speed was increased slowly until the draw down stabilized. Efforts were made to minimize the draw down on the well. Field parameters were measured when water began to discharge from the flow though cell. Parameters were recorded on field sheets approximately every five minutes until they stabilized to within 10% and the turbidity of the purge water fell below 5.0 NTUs. Monitoring well MW-104A stabilized with little to no reduction in the turbidity it is recommended that the wells be developed again to remove fines and possibly lower the turbidity in the sample water. After the field parameters stabilized for three consecutive readings, ground water was pumped directly into the sample bottles. The DGSI sampling pump was decontaminated prior to the introduction to the well and after removal form the well with a series Alconox and de-ionized water rinses. All of the samples collected for dissolved metals were field filtered through a 0.45-micron filter prior to preservation with nitric acid. A duplicate sample was collected from MW-102A and submitted to the laboratory as Dup-1. A matrix spike and matrix spike duplicate (MS/MSD) were collected from MW-201. All of the ground water samples were packed on ice and hand delivered to Alpha Analytical Laboratories on April 5, 2017. Copies of the field sampling sheets and chains-of-custody are attached.

Please contact me if you have any questions.

Sincerely:  
GEOLOGICAL FIELD SERVICES, INC.



Ryan J. MacKay  
Senior Geologist

07108.0417

**GFS**  
**Daily Instrument and Calibration Log**

**Date: April 5, 2017**

Standard Value	pH4	pH7	pH10	SC 1000	ORP 236 mv	100% Sat.
Standard Lot Number	6GH007	6GG018	^GG109	Palms 1413	Zobell	
Instrument Serial #	pH4	pH7	pH10	SC 1000	ORP	D.O.
11G100862						
Pre Calibration	3.72	9.88	10.02	1293	221.0	92.1
Calibrated	4.00	7.00	10.00	1413	236.0	98.9
End of Day Drift	4.06	7.06	10.06	1401	231.0	96.7

**Date: April 5, 2017**

10.0 NTU

Within Range

Hach:13100028784

Calibration check AM	9.99	Yes
Calibration check AM	9.91	Yes

## Geological Field Services, Inc. Low Flow Well Sampling Data

Project ID: 07108 L&RR Landfill  
Location: North Smithfield RI  
Sampler: MacKay Deltrea  
Weather: OVO-CART

Well Number: CW-5B  
Date: 9-5-17  
Time: 1025

Protective Casing Present Y N  
Protective Casing Locked Y N  
Cap on Well Riser Y N  
Physical Damage Y N

Cement Pad Present Y N  
Standing Water Y N  
Visible Heaving Y N  
Visible Subsidence Y N

Comment: ~~COLLECT MS AND MSD AT THIS LOCATION~~

Depth to Water: 56.42  
Depth to Product: —  
Total Depth: VM  
Water Column:

Type of Protective Casing: RB SU  
Measuring Point: TOC TPC

### Well Volume:

## Development/Purge Device: DEDICATED BLADDER PUMP

Color: clear  
Odor: none

Sheen: Y N  
Turbidity: L M H VH

Volume Purged: 10.5  
Duration: 30 min

## **Sample Collection**

Date: 4 / 5 / 17

Time: 1(6)

Remarks: R10 D10 50psi 300ml/hr

Signature of Sampler: P

# Geological Field Services, Inc.

## Low Flow Well Sampling Data

Project ID: 07108 L&RR Landfill  
Location: North Smithfield RI  
Sampler: MacKay Dellea  
Weather: P. Sun 45

Well Number: CW-7B  
Date: 4-5-18  
Time: 1230

Protective Casing Present Y N  
Protective Casing Locked Y N  
Cap on Well Riser Y N  
Physical Damage Y N

Cement Pad Present  Y N  
 Standing Water Y  N  
 Visible Heaving Y  N  
 Visible Subsidence Y  N

Comment: Royer C&H BROKEN

Depth to Water: 7.85  
Depth to Product: \_\_\_\_\_  
Total Depth: 46.4  
Water Column: \_\_\_\_\_

Type of Protective Casing: RB SU  
Measuring Point: TOE TPC

Development/Purge Device: SAMPLE WITH DGSI BLADDER PUMP

Color: Clear  
Odor: None

Sheen: Y N  
Turbidity: L M H VH

Volume Purged: 61  
Duration:

## **Sample Collection**

Date: 4/5/17

Time: 1307'

Remarks: \_\_\_\_\_

Signature of Sampler: 



# Geological Field Services, Inc.

## Low Flow Well Sampling Data

Project ID: 07108 L&RR Landfill  
Location: North Smithfield RI  
Sampler: MacKay Dellea  
Weather: Sunny

Well Number: MW-103A  
Date: 4-5-17  
Time: 9:30

Protective Casing Present (Y) N  
Protective Casing Locked (Y) N  
Cap on Well Riser (Y) N  
Physical Damage Y (N)

Cement Pad Present (Y) N  
Standing Water Y (N)  
Visible Heaving Y (N)  
Visible Subsidence Y (N)

Comment: R10 D6 3JPST

Depth to Water: 13.76

Type of Protective Casing: RB SU  
Measuring Point: TOC TPC

Depth to Product: \_\_\_\_\_

Total Depth:   NM

Water Column: \_\_\_\_\_

Well Volume: \_\_\_\_\_

Development/Purge Device: DEDICATED BLADDER PUMP

Color: Clear  
Odor: NM

Sheen: Y N  
Turbidity: L M H VH

Volume Purged: 7.0 L  
Duration: 30 min

## **Sample Collection**

Date: 9/5/17

Time: 1106

**Remarks:** \_\_\_\_\_

Signature of Sampler: A

**Geological Field Services, Inc.**  
**Low Flow Well Sampling Data**

Project ID: 07108 L&RR Landfill  
 Location: North Smithfield RI  
 Sampler: MacKay Dellea  
 Weather: 1410

Well Number: MW-104A  
 Date: 4-5-12  
 Time: 1406

Protective Casing Present Y N  
 Protective Casing Locked Y N  
 Cap on Well Riser Y N  
 Physical Damage Y N

Cement Pad Present Y N  
 Standing Water Y N  
 Visible Heaving Y N  
 Visible Subsidence Y N

Comment: Removed Pump from well to Assess Usability  
Rough Cap Damage

Depth to Water: 17.32  
 Depth to Product:  
 Total Depth: 54.03

Water Column:

Type of Protective Casing: RB SU  
 Measuring Point: TOC TPC

Well Volume:

Development/Purge Device: DEDICATED BLADDER PUMP Sample Dose Pump

Time	Temp Celsius	S.C. umhos/cm	D.O. mg/L	ORP mV	pH su units	NTU	Drawdown feet	Purge gal.
1410	12.16	426	6.21	176.2	6.31	181	0.6	1.0
1420	13.02	431	6.06	171.7	6.04	195	0.6	2.0
1425	13.41	464	5.49	175.4	6.11	101	0.6	3.0
1430	13.79	4.41	5.21	171.2	6.21	56	0.6	4.0
1435	13.80	335	5.00	141	6.25	26	0.6	5.0
1440	13.96	295	4.98	140.2	6.31	25	0.6	6.0
1445	13.94	294	4.97	140.1	6.32	24	0.6	7.0
14500	13.95	293	4.98	140.6	6.31	24	0.6	7.0

Color: Light olive  
 Odor: Natural

Sheen: Y N  
 Turbidity: L M H VH

Volumé Purged: 5.0L  
 Duration: \_\_\_\_\_

Sample Collection

Date: 4/5/12

Time: 1450 + 1451

Remarks: Well Shallow Turbidity elevated

Signature of Sampler: J

EB  
15/15

## Geological Field Services, Inc. Low Flow Well Sampling Data

Project ID: 07108 L&RR Landfill  
Location: North Smithfield RI  
Sampler: Mackay Dellea  
Weather: overcast

Well Number: MW-201  
Date: 4-5-12  
Time: 800

Protective Casing Present  Y N  
Protective Casing Locked Y  N  
Cap on Well Riser  Y N  
Physical Damage  Y N

Cement Pad Present Y N  
Standing Water Y N  
Visible Heaving Y N  
Visible Subsidence Y N

Comment: Collect MS MSD  
to Royal car cracking

Depth to Water: 28.1  
Depth to Product: ✓  
Total Depth: 90.71  
Water Column:

Type of Protective Casing: RB      SU  
Measuring Point: TOC      TPC

Water Column: \_\_\_\_\_

Well Volume: \_\_\_\_\_

**Development/Purge Device:** DEDICATED BLADDER PUMP

Color: Clear  
Odor: Nam

Sheen: Y N  
Turbidity: L M H VH

Volume Purged: 9.0L  
Duration: 30 min

## **Sample Collection**

Date: 4/5/17

Time: 836

Remarks: \_\_\_\_\_

Signature of Sampler: R

## Geological Field Services, Inc. Low Flow Well Sampling Data

Project ID: 07108 L&RR Landfill

Well Number: MW-202

Location: North Smithfield RI

Date: 4-5-17

Sampler: MacKay ~~Dettea~~

Time: 7:05

Weather: OVERCAST 39

Protective Casing Present	<input checked="" type="radio"/>	N
Protective Casing Locked	<input checked="" type="radio"/>	N
Cap on Well Riser	<input checked="" type="radio"/>	N
Physical Damage	Y	N

Cement Pad Present	<input checked="" type="checkbox"/>	N
Standing Water	<input checked="" type="checkbox"/>	N
Visible Heaving	<input checked="" type="checkbox"/>	N
Visible Subsidence	<input checked="" type="checkbox"/>	N

#### **Comment:**

Depth to Water: 9.22  
Depth to Product: -  
Total Depth: 38.34  
Water Column: 29.12

Type of Protective Casing: RB SU  
Measuring Point: TOC TPC

Well Volume: 4.77 gl

## Development/Purge Device: DEDICATED BLADDER PUMP

Color: Clear  
Odor: None

Sheen: Y N  
Turbidity: L M H VH

Volume Purged: 9.5L  
Duration: 30min

## **Sample Collection**

Date: 4.5.17

Time: 946

Remarks: RID > 6 20 PSF 300 ml/min 300 ml/min

Signature of Sampler: \_\_\_\_\_

## Geological Field Services, Inc. Surface Water Sampling Data

Project ID: 07108 L&RR Landfill

Surface Water ID: SW-5

Location: North Smithfield RI

Date: 4-5-17

Sampler: MACKAM

Time: 920

Weather: overcast 40

Time: 1:00

Comment: In stream south east of MW-103 couplet

Sampling Device: GEOTECH 2 PERISTALTIC

Color: Clear

Odor: None

Sheen: Y N

Turbidity: L M H VH

### Volume Purged:

Duration:

## **Sample Collection**

Date: 4 / 5 / 17

Time: 920

**Remarks:**

Signature of Sampler: J

## Geological Field Services, Inc. Surface Water Sampling Data

Project ID: 07108 L&RR Landfill

Surface Water ID: SW-8

**Location:** North Smithfield RI

Date: 4-5-15

Sampler: Muss

Time: 1720

Weather: Overcast

---

Comment: In stream South east of CW-7 triplet

Sampling Device: GEOTECH 2 PERISTALTIC

Color: light orange

Sheen: Y (N)

**Volume Purged:**

Odor: m

Turbidity: L M H VH

Duration: \_\_\_\_\_

### **Sample Collection**

Date: 4/5/17

Time: 12:20

**Remarks:** \_\_\_\_\_

[View Details](#) | [Edit](#) | [Delete](#)

Signature of Sampler: RE

## Geological Field Services, Inc. Surface Water Sampling Data

Project ID: 07108 L&RR Landfill

Surface Water ID: SW-10

Location: North Smithfield RI

Date: 4-5-11

Sampler: Marcia

Time: 1332

Weather: Sun

---

Comment: East MW-104 and landfill beyond beaver dam

Sampling Device: GEOTECH 2 PERISTALTIC

**Color:**

**Odor:**

Sheen: Y N  
Turbidity: L M H VH

#### **Volume Purged:**

Duration: \_\_\_\_\_

## **Sample Collection**

Date: 4/5/17

Time: 1332

**Remarks:** \_\_\_\_\_

*[Handwritten signature]*

Signature of Sampler: \_\_\_\_\_



## Geological Field Services, Inc. Surface Water Sampling Data

Project ID: 07108 L&RR Landfill  
Location: North Smithfield RI  
Sampler: Matty  
Weather: Sunny

Surface Water ID: LCH-3  
Date: 4-15-15  
Time: 1400

Comment: low land area south of MW-104 couplet

Sampling Device: GEOTECH 2 PERISTALTIC

Color: Clem  
Odor: none

Sheen: Y N  
Turbidity: L M H VH

Volume Purged: \_\_\_\_\_  
Duration: \_\_\_\_\_

## **Sample Collection**

Date: 4/5/12

Time: 1400

**Remarks:** \_\_\_\_\_

---

**Signature of Sampler:**

## Geological Field Services, Inc. Surface Water Sampling Data

Project ID: 07108 L&RR Landfill

Surface Water ID: LHC-5

Location: North Smithfield RI

Date: 4/5/12

Sampler: *M. A. S. J.*

Time: 16:15

Weather: overcast

Time: 11:15

Comment: Wetland area north of MW-102 couplet

Sampling Device: GEOTECH 2 PERISTALTIC

Color: *Clear*

Odor: no

Sheen: Y N  
Turbidity: C M H VH

Volume Poured:

Duration:

### **Sample Collection**

Date: 4/5/17

Time: 11:15

**Remarks:** \_\_\_\_\_

Chapter 10: The History of the United States



## **CHAIN OF CUSTODY**

PAGE 1 OF 2

Project Information

Date Rec'd in Lab:

CHAIN OF CUSTODY						PAGE 1 OF 2
Project Information			Report Information			Date Rec'd in Lab:
<b>Westborough, MA</b> TEL: 508-898-9220 FAX: 508-898-9193		<b>Mansfield, MA</b> TEL: 508-822-9300 FAX: 508-822-3288		<input type="checkbox"/> FAX <input checked="" type="checkbox"/> ADEX		<input type="checkbox"/> EMAIL <input checked="" type="checkbox"/> Add'l Deliverables
<b>Client Information</b>  Client: Woodard & Curran Address: 40 Shattuck Road Suite 40 Andover MA 01810 Phone: 866-702-6371 Fax: 978-557-7948 Email: solney@Woodardcurran.com			<b>Regulatory Requirements/Report Limits</b> Project Location: North Smithfield RI Project #: 224263 Project Manager: Samantha Olney ALPHA Quote #: <b>ANALYSIS</b> <b>Turn-Around Time</b> <input type="checkbox"/> Standard <input type="checkbox"/> Rush (ONLY IF PRE-APPROVED)			<b>MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS</b> <input type="checkbox"/> Yes <input type="checkbox"/> No      Are MCP Analytical Methods Required? <input type="checkbox"/> Yes <input type="checkbox"/> No      Are CT RCP (Reasonable Confidence Protocols) Required?
						<b>SAMPLE HANDLING</b> <b>Filtration</b> <input checked="" type="checkbox"/> Done <input type="checkbox"/> Not Needed <input type="checkbox"/> Lab to do <b>Preservation</b> <input type="checkbox"/> Lab to do <i>(Please specify below)</i>
						<b>T</b> <b>O</b> <b>A</b> <b>L</b> <b>#</b> <b>B</b> <b>O</b> <b>T</b> <b>T</b> <b>E</b> <b>S</b>
						<b>Please print clearly, legibly and completely. Samples can not be logged in and turned around time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.</b>
						<b>Received By:</b> <i>Ronald Doff</i> <b>Date/Time:</b> <i>4/5/17 1615</i>
<b>EASE ANSWER QUESTIONS ABOVE!</b> <b>DO YOUR PROJECT A MCP or CT RCP?</b>						
<small>NO. 01-010 JAN-12</small>						







## **CHAIN OF CUSTODY**

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Project Information

Project Information		PAGE 2 OF 2		Date Rec'd in Lab:	ALPHA Job #:					
					<input type="checkbox"/> FAX	Report Information	<input type="checkbox"/> EMAIL	Data Deliverables	Billing Information	
					<input checked="" type="checkbox"/> ADEx		<input type="checkbox"/> Add'l Deliverables		<input type="checkbox"/> Same as Client Info	PO #:
Client Information		Project Name: L&RR								
Client: Woodard & Curran		Project Location: North Smithfield RI								
Address: 40 Shattuck Road Suite 40 Andover MA 01810		Project #:		224263						
Phone: 866-702-6371		Project Manager:		Samantha Olney						
Email: solney@Woodardcurran.com		ALPHA Quote #:								
Turn-Around Time		Time:								
Fax: 978-557-7948		Due Date: 10 DAY TAT								
Other Project Specific Requirements/Comments/Detection Limits:  Reporting limit for 1-4 Dioxane must be below 1.6 ug/L, GW samples must meet RI GA Groundwater Objectives, SW Samples must meet RIDEM AWQCG, PDF report and GIS/Key EDD required, modified Tier II/TierPlus report, Hold extra set of VOC Vials for MW-102A low level and analize if TCE is J-Flagged below 5.0 ug/L.		Time:								
Project ID		Collection		Sample Matrix	Sampler's Initials	Sample Specific Commands				
SW-16		Date	Time			<input type="checkbox"/> SAMPLE HANDLING				
LCH-3		1/5/17	1345	GW	RM	<input checked="" type="checkbox"/> Filtration				
LCH-8-LCH-5		1/5/17	1150	GW	RM	<input checked="" type="checkbox"/> Done				
DUP-1		1/5/17	1155	GW	RM	<input type="checkbox"/> Not Needed				
MS - 1/5/17-201		1/5/17	1330	GW	RM	<input type="checkbox"/> Lab to do				
MSD - 1/5/17-201		1/5/17	1330	GW	RM	<input type="checkbox"/> Preservation				
EQUIPMENT BLANK		1/5/17	1345	GW	RM	<input type="checkbox"/> Lab to do (Please specify below)				
Container Type		-	-	-	-	<input type="checkbox"/> Lab to do				
Preservative		-	-	-	-	<input type="checkbox"/> Lab to do				
Relinquished By:		Date/Time		Received By:		Date/Time				
		4/5/17 16:55		Alpha Staff		4/5/17 16:55				
PLEASE ANSWER QUESTIONS ABOVE!										
DO YOUR PROJECT A MCP or CT RCP?										
ALPHA ANALYTICAL World Class Chemistry										
Westborough, MA Mansfield, MA TEL: 508-898-9220 TEL: 508-822-9300 FAX: 508-898-9193 FAX: 508-822-3268										
Project Requirements/Report Limits										
State/Fed Program		Criteria								
MCP PRESUMPTIVE CERTAINTY-CT REASONABLE CONFIDENCE PROTOCOLS										
<input type="checkbox"/> Yes		<input type="checkbox"/> No		Are MCP Analytical Methods Required?						
<input type="checkbox"/> Yes		<input type="checkbox"/> No		Are CT RCP (Reasonable Confidence Protocols) Required?						
ANALYSIS										
T. Metals As, Cd, Mn, Pb, Fe 6010C		Dissolved As 6010C		Dissolved As, Cd, Mn, Pb, Fe 6010C		Total AS 6010C				
SD6-2 JLH/MJS										
Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.										





## **CHAIN OF CUSTODY**

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Project Information



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## APPENDIX D: HISTORICAL GROUNDWATER DATA (2006 – 2016)

**Appendix D:**  
**Historical Groundwater Data (2012-2017)**  
L&RR Superfund Site - North Smithfield, Rhode Island

LABORATORY ANALYTES	MCL <sup>(1)</sup>	CW-5A		CW-5B						CW-5C											
		3/19/2012	3/24/2014	3/19/2012	6/19/2013	3/24/2014	4/6/2015	4/5/2016	4/5/2017	3/19/2012	3/24/2014										
<b>Volatile Organic Compounds (µg/L)</b>																					
1,1,1,2-Tetrachloroethane		1.0	U	1.0	U	1.0	U	1.0	U	0.5	U	0.5	U	1.0	U	1.0	U				
1,1,1-Trichloroethane	200	1.0	U	1.0	U	1.0	U	1.0	U	1	U	0.5	U	0.5	U	1.0	U	1.0	U		
1,1,2,2-Tetrachloroethane		0.5	U	1.0	U	0.5	U	1.0	U	1.0	U	1	U	0.5	U	0.5	U	1.0	U		
1,1,2-Trichloro-1,2,2-trifluoroethane				1.0	U			1.0	U	1	U	10	U	10	U			1.0	U		
1,1,2-Trichloroethane	5.0	1.0	U	1.0	U	1.0	U	1.0	U	1	U	0.75	U	0.75	U	1.0	U	1.0	U		
1,1-Dichloroethane				1.0	U	1.0	U	1.0	U	1	U	0.75	U	0.75	U	1.0	U	1.0	U		
1,1-Dichloroethene	7.0	1.0	U	1.0	U	1.0	U	1.0	U	1	U	0.5	U	0.5	U	1.0	U	1.0	U		
1,1-Dichloropropene				1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	1.0	U	1.0	U		
1,2,3-Trichlorobenzene		1.0	U	1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	1.0	U	1.0	U		
1,2,3-Trichloropropane		1.0	U	1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	1.0	U	1.0	U		
1,2,4-Trichlorobenzene	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1	U	1	U	1.0	U	1.0	U		
1,2,4-Trimethylbenzene		1.0	U	1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	1.0	U	1.0	U		
1,2-Dibromo-3-chloropropane	0.2	5.0	U	0.011	U	5.0	U	1.0	U	0.011	U	0.0104	U	0.021	U	1	U	5.0	U	0.011	U
1,2-Dibromoethane	0.05	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	0.0104	U	0.021	U	1	U	1.0	U	1.0	U
1,2-Dichlorobenzene	600	1.0	U	1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	1.0	U	1.0	U		
1,2-Dichloroethane	5.0	1.0	U	1.0	U	1.0	U	1.0	U	1	U	0.5	U	0.5	U	1.0	U	1.0	U		
1,2-Dichloroethene														0.5	U						
1,2-Dichloropropane	5.0	1.0	U	1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	1.0	U	1.0	U		
1,3,5-Trichlorobenzene				1.0	U			1.0	U	1	U	1	U	1	U	1.0	U	1.0	U		
1,3,5-Trimethylbenzene		1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U	1	U	1	U	1.0	U	1.0	U		
1,3-Dichlorobenzene		1.0	U	1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	1.0	U	1.0	U		
1,3-Dichloropropane		1.0	U	1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	1.0	U	1.0	U		
1,3-Dichloropropene, Total														0.5	U						
1,4-Dichlorobenzene	75	0.4	J	1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	1.0	U	1.0	U		
1,4-Dioxane		20.0	U	1.6	U	20.0	U	40	R	1.6	U	1.15	0.144	U	0.147	U	20.0	U	2	U	
2,2-Dichloropropane		1.0	U	1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	1.0	U	1.0	U		
2-Butanone		10	UJ	10.0	U	10	UJ	10.0	UJ	1.0	U	10	U	5	U	5	U	10	UJ	10.0	U
2-Chlorotoluene		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1	U	1	U	1.0	U	1.0	U		
2-Hexanone				5.0	U			5.0	U	5	U	5	U	5	U	5.0	U				
4-Chlorotoluene		1.0	U	1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	1.0	U	1.0	U		
4-Isopropyltoluene				1.0	U			1.0	U	1	U	0.5	U	0.5	U	1.0	U				
4-Methyl-2-pentanone		10	U	5.0	U	10	U	5.0	UJ	5.0	U	5	U	5	U	5	U	10	U	5.0	U
Acetone		50	U	10.0	U	50	U	10.0	UJ	1.0	U	10	U	2.6	J	5	U	50	U	10.0	U
Acrylonitrile				5.0	U			5.0	U	5	U	5	U	5	U	5.0	U				
Benzene	5.0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1	U	0.5	U	0.2	U	1.0	U	1.0	U
Bromobenzene		1.0	U	1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	1.0	U	1.0	U		
Bromochloromethane		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1	U	1	U	1.0	U	1.0	U		
Bromodichloromethane		0.5	U	1.0	U	0.5	U	1.0	U	1.0	U	1	U	0.5	U	0.5	U	0.5	U	1.0	U
Bromoform		1.0	U	1.0	U	1.0	U	1.0	UJ	1.0	U	1	U	1	U	1.0	U	1.0	U		
Bromomethane		2.0	U	1.0	U	2.0	U	1.0	UJ	1.0	U	1	U	1	U	2.0	U	1.0	U		
Carbon disulfide				1.0	U			1.0	U	1	U	1	U	1	U	1.0	U				
Carbon Tetrachloride	5.0	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1	U	0.5	U	0.2	U	1.0	U	1.0	U
Chlorobenzene	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1	U	0.5	U	0.5	U	1.0	U	1.0	U
Chloroethane		2.0	U	1.0	U	2.0	U	1.0	U	1.0	U	1	U	1	U	1	U	2.0	U	1.0	U
Chloroform		1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1	U	0.75	U	0.75	U	1.0	U	1.0	U
Chloromethane		0.2	J	1.0	U	2.0	U	1.0	U	1.0	U	1	U	2	U	2.0	U	1.0	U		
cis-1,2-Dichloroethene	70	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1	U	0							

**Appendix D:**  
**Historical Groundwater Data (2012-2017)**  
L&RR Superfund Site - North Smithfield, Rhode Island

LABORATORY ANALYTES	MCL <sup>(1)</sup>	CW-7B						MW-102A																							
		3/20/2012			6/19/2013			3/24/2014			4/6/2015			4/5/2016			4/5/2017			3/20/2012			3/20/2012			6/19/2013			3/24/2014		
		DUP	DUP	DUP	DUP	DUP	DUP	DUP	DUP	DUP	DUP	DUP	DUP	DUP	DUP	DUP	DUP	DUP	DUP	DUP	DUP	DUP	DUP	DUP	DUP	DUP	DUP	DUP	DUP		
<b>Volatile Organic Compounds (µg/L)</b>																															
1,1,1,2-Tetrachloroethane		1.0	U	1.0	U	1.0	U	1	U	0.5	U	0.5	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,1,1-Trichloroethane	200	1.0	U	1.0	U	1.0	U	1	U	0.5	U	0.5	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,1,2,2-Tetrachloroethane		0.5	U	1.0	U	1.0	U	1	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,1,2-Trichloroethane		5.0	1.0	U	1.0	U	1.0	U	1	U	0.75	U	0.75	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U			
1,1-Dichloroethane		1.0	U	1.0	U	1.0	U	1	U	0.75	U	0.75	U	16		16		16		16		16		16		16		16		16	
1,1-Dichloroethene		7.0	1.0	U	1.0	U	1.0	U	1	U	0.5	U	0.5	U	0.24	J	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	
1,1-Dichloropropene		1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,2,3-Trichlorobenzene		1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,2,3-Trichloropropane		1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,2,4-Trichlorobenzene	70	1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,2,4-Trimethylbenzene		1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,2-Dibromo-3-chloropropane	0.2	5.0	U	1.0	U	0.011	U	0.0105	U	0.021	U	1	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U		
1,2-Dibromoethane	0.05	1.0	U	1.0	U	1.0	U	0.0105	U	0.021	U	1	U	0.02	U	0.02	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,2-Dichlorobenzene	600	1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,2-Dichloroethane	5.0	1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	0.38	J	0.38	J	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,2-Dichloroethene														0.5	U																
1,2-Dichloropropane	5.0	1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	0.75	J	1.0	U	0.33	J	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,3,5-Trichlorobenzene														1.0	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U		
1,3,5-Trimethylbenzene		1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	1.0	U	1.0	U	0.77	J	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,3-Dichlorobenzene		1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,3-Dichloropropane		1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
1,3-Dichloropropene, Total														0.5	U																
1,4-Dichlorobenzene	75	1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	1.6		1.6		2.0		1.5		1.0									
1,4-Dioxane		20.0	U	40	R	4		5.71		4.23		5.07		20.0	U	20.0	U	40	R	2	U	2	U								
2,2-Dichloropropane		1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
2-Butanone		10	UJ	10.0	UJ	10.0	U	10	U	5	U	5	U	10	UJ	10	UJ	10.0	UJ	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U		
2-Chlorotoluene		1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U		
2-Hexanone														5.0	U	5	U	5	U					5.0	U	5.0	U				
4-Chlorotoluene		1.0	U	1.0	U	1.0	U	1	U	1	U	1	U	1.0	U	1.0	U	1.0	U</td												

**Appendix D:**  
**Historical Groundwater Data (2012-2017)**  
**L&RR Superfund Site - North Smithfield, Rhode Island**

LABORATORY ANALYTES	MCL <sup>(1)</sup>	MW-102A						MW-102B		MW-103A		
		DUP	DUP	DUP	DUP	DUP	DUP	3/20/2012	3/24/2014	3/20/2012	6/19/2013	
		4/6/2015	4/6/2015	4/5/2016	4/5/2016	4/5/2017	4/5/2017					
<b>Volatile Organic Compounds (µg/L)</b>												
1,1,1,2-Tetrachloroethane		1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	200	1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane		1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane		1 U	1 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U			
1,1,2-Trichloroethane	5.0	1 U	1 U	0.75 U	0.75 U	0.75 U	0.75 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane		9.5	9.19	9.8	10	9	9.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	7.0	1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene		1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene		1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane		1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	70	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene		1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane	0.2	0.0103 U	0.0104 U	0.02 U	0.021 U	1 U	1 U	5.0 U	0.011 U	5.0 U	1.0 U	1.0 U
1,2-Dibromoethane	0.05	0.0103 U	0.0104 U	0.02 U	0.021 U	1 U	1 U	1.0 U	1.0 U	0.0 U	1.0 U	
1,2-Dichlorobenzene	600	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	5.0	0.249	1 U	0.5 U	0.5 U	0.26 J	0.29 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene						69 J	71 J					
1,2-Dichloropropane	5.0	1 U	1 U	1 U	1 U	1 U	0.93 J	0.84 J	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trichlorobenzene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	
1,3,5-Trimethylbenzene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 UU
1,3-Dichlorobenzene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U
1,3-Dichloropropane		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U
1,3-Dichloropropene, Total						0.5 U	0.5 U					
1,4-Dichlorobenzene	75	1.47	1.62	1.6	1.6	3.1	3.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane		1.6 U	1.6 U	0.375	0.386	0.632	0.718	20.0 U	1.6 U	20.0 U	40 R	
2,2-Dichloropropene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone		10 U	10 U	5 U	5 U	5 U	5 U	10 UJ	10.0 U	10 UJ	10.0 UU	
2-Chlorotoluene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Hexanone		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5.0 U			
4-Chlorotoluene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Isopropyltoluene		1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	1.0 U			
4-Methyl-2-pentanone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5.0 U	10 U	5.0 UU	
Acetone		10 U	10 U	3.8 J	1.8 J	5 U	5 U	50 U	10.0 U	50 U	10.0 UU	
Acrylonitrile		5 U	5 U	5 U	5 U	5 U	5 U	5 U	5.0 U			
Benzene	5.0	1.33	1.44	1	1	1.1	1	0.7 J	0.5	1.0 U	1.0 U	1.0 U
Bromobenzene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane		1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U
Bromoform		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 UUJ
Bromomethane		1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.0 U	1.0 U	2.0 U	1.0 UUJ
Carbon disulfide		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	
Carbon Tetrachloride	5.0	1 U	1 U	0.5 U	0.5 U	0.2 U	0.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	100	3.87	4.17	2.6	2.7	3.6	3.7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane		1.6	1.31	1	1.1	0.85 J	1	0.3 J	1.0 U	2.0 U	1.0 U	
Chloroform		1 U	1 U	0.75 U	0.75 U	0.75 U	0.75 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane		1 U	1 U	2 U	2 U	2 U	2 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	70	31.5	31.7	38	39	68	70	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene		1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	1.0 U			
Dibromochloromethane		1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.2 U	1.0 U	0.5 U	1.0 U	
Dibromomethane		1 U	1 U	1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane		2.28	2.47	1.6 J	1.8 J	1.7 J	1.7 J	1.0 UJ	1.0 U	1.0 UJ	1.0 U	
Ethanol TIC		50 U	50 U					50.0 U				
Ethylbenzene	700	1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethyl Ether		2.87	3.04	2.5	2.6	3.8	3.8	1.0 U	1.0 U			
Hexachlorobutadiene		1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.4 U	1.0 U	0.4 U	1.0 UUJ	
Isopropyl Ether		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U		
Isopropylbenzene		1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
m,p-Xylenes	10,000	2 U	2 U	1 U	1 U	1 U	1 U	2.0 U	<2 U	2.0 U	2.0 U	2.0 U
Methylene Chloride	5.0	1 U	1 U	3 U	3 U	3 U	3 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U
Methyl tert-butyl Ether		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	
Naphthalene	100	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5.0 U	1.0 U	5.0 U	1.0 UUJ
n-Butylbenzene		1 U	1 U	0.5 U	0.5 U</td							

**Appendix D:**  
**Historical Groundwater Data (2012-2017)**  
**L&RR Superfund Site - North Smithfield, Rhode Island**

LABORATORY ANALYTES	MCL <sup>(1)</sup>	MW-103A				MW-104A																	
		3/24/2014	4/6/2015	4/5/2016	4/5/2017	3/20/2012	Split	3/20/2012	6/19/2013	3/24/2014	4/6/2015	4/5/2016	4/5/2017										
<b>Volatile Organic Compounds (µg/L)</b>																							
1,1,1,2-Tetrachloroethane		1.0	U	1	U	0.5	U	0.5	U	1.0	U	1.0	U	0.5	U	0.5	U						
1,1,1-Trichloroethane	200	1.0	U	1	U	0.5	U	0.5	U	1.0	U	1.0	U	1	U	0.5	U						
1,1,2-Tetrachloroethane		1.0	U	1	U	0.5	U	0.5	U	0.5	U	4.0	U	1.0	U	0.5	U						
1,1,2-Trichloroethane	5.0	1.0	U	1	U	0.75	U	0.75	U	1.0	U	1.0	U	1.0	U	0.75	U						
1,1-Dichloroethane		1.0	U	1	U	0.75	U	0.75	U	1.5		1.4	U	1.0	U	0.75	U						
1,1-Dichloroethene	7.0	1.0	U	1	U	0.5	U	0.5	U	1.0	U	1.0	U	1.0	U	0.5	U						
1,1-Dichloropropene		1.0	U	1	U	1	U	1	U	1.0	U	2.0	U	4.0	U	1.0	U						
1,2,3-Trichlorobenzene		1.0	U	1	U	1	U	1	U	1.0	U	4.0	U	1.0	U	1	U						
1,2,3-Trichloropropane		1.0	U	1	U	1	U	1	U	1.0	U	4.0	U	1.0	U	1	U						
1,2,4-Trichlorobenzene	70	1.0	U	1	U	1	U	1	U	1.0	U	4.0	UJ	1.0	U	1	U						
1,2,4-Trimethylbenzene		1.0	U	1	U	1	U	1	U	1.5		1.8	U	4.0	U	1.0	U						
1,2-Dibromo-3-chloropropane	0.2	0.0	U	0.0104	U	0.021	U	1	U	5.0	U	5.0	U	4.0	U	0.011	U	0.0104	U	0.021	U		
1,2-Dibromoethane	0.05	1.0	U	0.0104	U	0.021	U	1	U	0.02	U	1.0	U	4.0	U	1.0	U	0.0104	U	0.021	U		
1,2-Dichlorobenzene	600	1.0	U	1	U	1	U	1	U	1.1		1.2	U	4.0	U	1.0	U	0.18	J	1	U		
1,2-Dichloroethane	5.0	1.0	U	1	U	0.5	U	0.5	U	0.3	J	0.3	J	4.0	U	1.0	U	1	U	0.5	U		
1,2-Dichloroethene										0.5	U									0.5	U		
1,2-Dichloropropane	5.0	1.0	U	1	U	1	U	1	U	0.3	J	1.0	U	4.0	U	1.0	U	1	U	1	U		
1,3,5-Trichlorobenzene		1.0	U	1	U	1	U	1	U							1.0	U	1	U	1	U		
1,3,5-Trimethylbenzene		1.0	U	1	U	1	U	1	U	1.2		1.3	U	4.0	UJ	1.0	U	1	U	1	U		
1,3-Dichlorobenzene		1.0	U	1	U	1	U	1	U	1.0	U	1.0	U	4.0	U	1.0	U	1	U	1	U		
1,3-Dichloropropane		1.0	U	1	U	1	U	1	U	1.0	U	4.0	U	1.0	U	1	U	1	U	1	U		
1,3-Dichloropropene, Total										0.5	U									0.5	U		
1,4-Dichlorobenzene	75	1.0	U	1	U	1	U	1	U	4.9		4.8		5.0		3.51		2.57		1.7	0.45	J	
1,4-Dioxane		2	U	1.56		1.96		1.38		480				310	J	313	J	193		102	15.6		
2,2-Dichloropropane		1.0	U	1	U	1	U	1	U	1.0	U	1.0	U	4.0	U	1.0	U	1	U	1	U		
2-Butanone		50.0	U	10	U	5	U	5	U	10	UJ	10	U	40	UJ	10.0	U	10	U	5	U		
2-Chlorotoluene		1.0	U	1	U	1	U	1	U	1.0	U	1.0	U	4.0	U	1.0	U	1	U	1	U		
2-Hexanone		5.0	U	5	U	5	U	5	U							5.0	U	5	U	5	U		
4-Chlorotoluene		1.0	U	1	U	1	U	1	U	1.0	U	1.0	U	4.0	U	1.0	U	1	U	1	U		
4-Isopropyltoluene		1.0	U	1	U	0.5	U	0.5	U							1.0	U	1	U	0.5	U		
4-Methyl-2-pentanone		5.0	U	5	U	5	U	5	U	10	U	25	U	20	UJ	5.0	U	5	U	5	U		
Acetone		50.0	U	10	U	2.9	J	5	U	50	U	3.7	J	40	UJ	10.0	U	10	U	3.5	J	5	U
Acrylonitrile		5.0	U	5	U	5	U	5	U							5.0	U	5	U	5	U		
Benzene	5.0	1.0	U	1	U	0.5	U	0.2	U	3.0		2.9		2.0	J	1.58		0.912		0.6	0.2	U	
Bromobenzene		1.0	U	1	U	1	U	1	U	1.0	U	2.0	U	4.0	U	1.0	U	1	U	1	U		
Bromochloromethane		1.0	U	1	U	1	U	1	U	1.0	U	1.0	U	4.0	U	1.0	U	1	U	1	U		
Bromodichloromethane		1.0	U	1	U	0.5	U	0.5	U	0.5	U	0.6	U	4.0	U	1.0	U	1	U	0.5	U		
Bromoform		1.0	U	1	U	1	U	1	U	1.0	U	1.0	U	4.0	UJ	1.0	U	1	U	1	U		
Bromomethane		1.0	U	1	U	1	U	1	U	2.0	U	2.0	U	4.0	UJ	1.0	U	1	U	1	U		
Carbon disulfide		1.0	U	1	U	1	U	1	U							1.0	U	1	U	1	U		
Carbon Tetrachloride	5.0	1.0	U	1	U	0.5	U	0.2	U	1.0	U	1.0	U	4.0	U	1.0	U	1	U	0.5	U		
Chlorobenzene	100	1.0	U	1	U	0.5	U	0.5	U	6.1		6.1		3.3	J	2.24		1.06		0.65	0.5	U	
Chloroethane		1.0	U	1	U	1	U	1	U	2.0	U	2.0	U	4.0	U	1.0	U	1	U	1	U		
Chloroform		1.0	U	1	U	0.75	U	0.75	U	1.0	U	1.0	U	4.0	U	1.0	U	1	U	0.75	U		
Chloromethane		1.0	U	1	U	2	U	2	U	2.0	U	2.0	U	4.0	U	1.0	U	1	U	2	U		
cis-1,2-Dichloroethene	70	1.0	U	1	U	0.5	U	0.5	U														

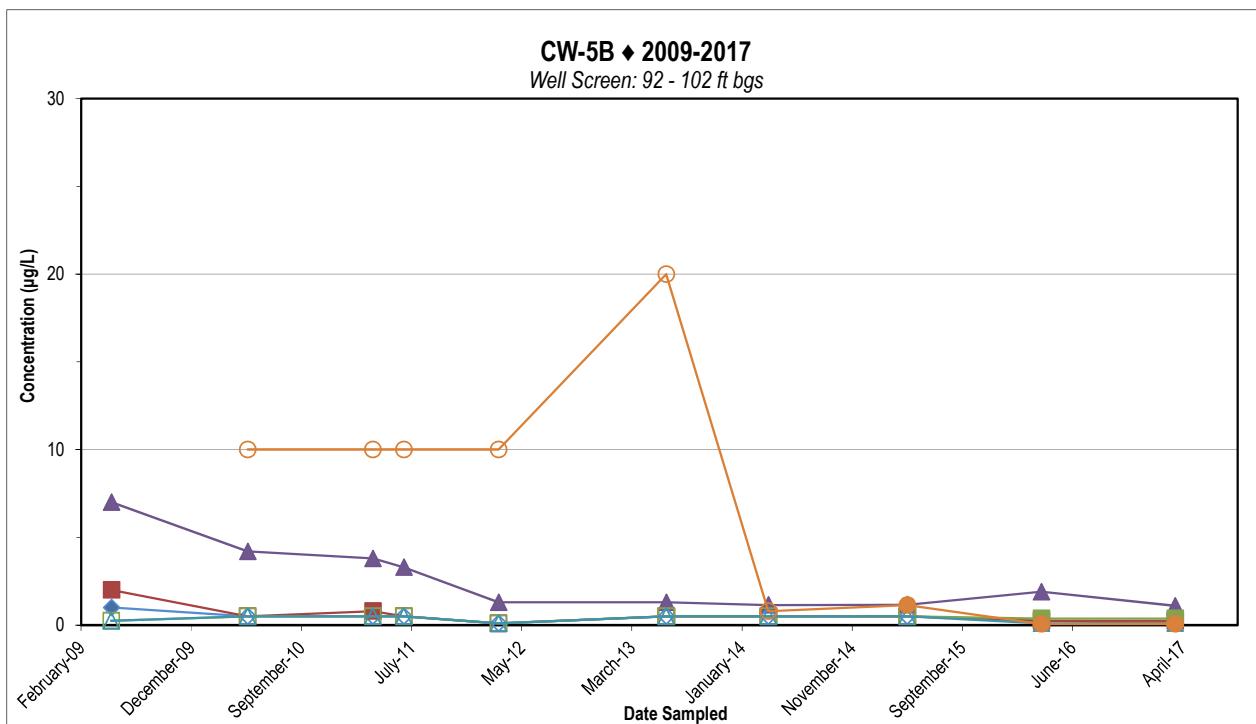
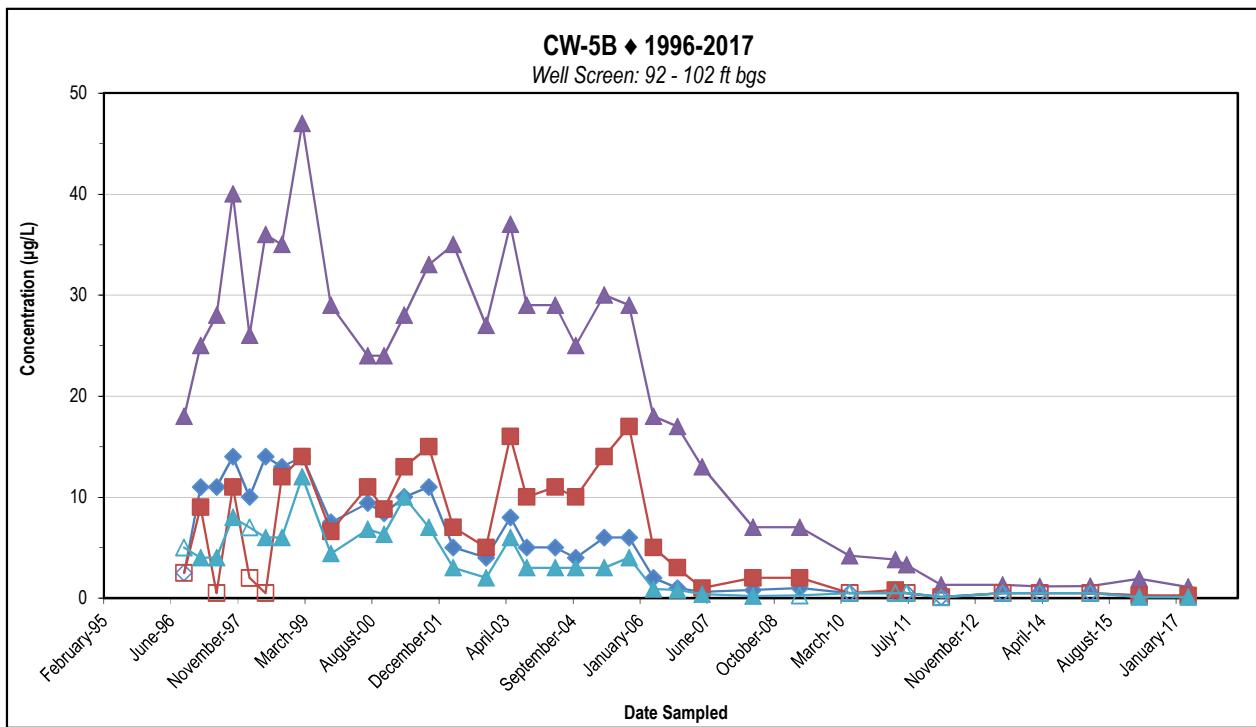
**Appendix D:**  
**Historical Groundwater Data (2012-2017)**  
**L&RR Superfund Site - North Smithfield, Rhode Island**

LABORATORY ANALYTES	MCL <sup>(1)</sup>	MW-201						MW-202							
		3/20/2012		6/19/2013		3/24/2014		4/6/2015		4/5/2016		4/5/2017			
<b>Volatile Organic Compounds (µg/L)</b>															
1,1,1,2-Tetrachloroethane		1.0	U	1.0	U	1.0	U	1	U	0.5	U	0.5	U		
1,1,1-Trichloroethane	200	1.0	U	1.0	U	1.0	U	1	U	0.5	U	0.5	U		
1,1,2,2-Tetrachloroethane		0.5	U	1.0	U	1.0	U	1	U	0.5	U	0.5	U		
1,1,2-Trichloro-1,2,2-trifluoroethane						1.0	U	1	U	10	U	10	U		
1,1,2-Trichloroethane	5.0	1.0	U	1.0	U	1.0	U	1	U	0.75	U	0.75	U		
1,1-Dichloroethane		1.0	U	1.0	U	1.0	U	1	U	0.75	U	0.75	U		
1,1-Dichloroethene	7.0	1.0	U	1.0	U	1.0	U	1	U	0.5	U	0.5	U		
1,1-Dichloropropene		1.0	U	1.0	U	1.0	U	1	U	1	U	1	U		
1,2,3-Trichlorobenzene		1.0	U	1.0	UJ	1.0	U	1	U	1	U	1	U		
1,2,3-Trichloropropane		1.0	U	1.0	U	1.0	U	1	U	1	U	1	U		
1,2,4-Trichlorobenzene	70	1.0	U	1.0	UJ	1.0	U	1	U	1	U	1	U		
1,2,4-Trimethylbenzene		1.0	U	1.0	U	1.0	U	1	U	1	U	1	U		
1,2-Dibromo-3-chloropropane	0.2	5.0	U	1.0	U	0.011	U	0.0103	U	0.02	U	1	U		
1,2-Dibromoethane	0.05	0.02	U	1.0	U	1.0	U	0.0103	U	0.02	U	1	U		
1,2-Dichlorobenzene	600	1.0	U	1.0	U	1.0	U	1	U	1	U	1	U		
1,2-Dichloroethane	5.0	1.0	U	1.0	U	1.0	U	1	U	0.5	U	0.5	U		
1,2-Dichloroethene										0.5	U		0.5	U	
1,2-Dichloropropane	5.0	1.0	U	1.0	U	1.0	U	1	U	1	U	1	U		
1,3,5-Trichlorobenzene						1.0	U	1	U	1	U	1	U		
1,3,5-Trimethylbenzene		1.0	U	1.0	UJ	1.0	U	1	U	1	U	1	U		
1,3-Dichlorobenzene		1.0	U	1.0	U	1.0	U	1	U	1	U	1	U		
1,3-Dichloropropane		1.0	U	1.0	U	1.0	U	1	U	1	U	1	U		
1,3-Dichloropropene, Total										0.5	U		0.5	U	
1,4-Dichlorobenzene	75	1.0	U	1.0	U	1.0	U	1	U	1	U	1	U		
1,4-Dioxane		20.0	U	40	R	2	U	1.6	U	0.144	U	0.142	U	0.142	U
2,2-Dichloropropane		1.0	U	1.0	U	1.0	U	1	U	1	U	1	U		
2-Butanone		10	UJ	10.0	UJ	10.0	U	10	U	5	U	5	U		
2-Chlorotoluene		1.0	U	1.0	U	1.0	U	1	U	1	U	1	U		
2-Hexanone						5.0	U	5	U	5	U	5	U		
4-Chlorotoluene		1.0	U	1.0	U	1.0	U	1	U	1	U	1	U		
4-Isopropyltoluene						1.0	U	1	U	0.5	U	0.5	U		
4-Methyl-2-pentanone	10	U	5.0	UJ	5.0	U	5	U	5	U	10	U	5	U	
Acetone		50	U	10.0	UJ	10.0	U	10	U	2.8	J	5	U		
Acrylonitrile						5.0	U	5	U	5	U	5	U		
Benzene	5.0	1.0	U	1.0	U	1.0	U	1	U	0.5	U	0.2	U		
Bromobenzene		1.0	U	1.0	U	1.0	U	1	U	1	U	1	U		
Bromochloromethane		1.0	U	1.0	U	1.0	U	1	U	1	U	1	U		
Bromodichloromethane		0.5	U	1.0	U	1.0	U	1	U	0.5	U	0.5	U		
Bromoform		1.0	U	1.0	UJ	1.0	U	1	U	1	U	1	U		
Bromomethane		2.0	U	1.0	UJ	1.0	U	1	U	1	U	1	U		
Carbon disulfide						1.0	U	1	U	1	U	1	U		
Carbon Tetrachloride	5.0	1.0	U	1.0	U	1.0	U	1	U	0.5	U	0.2	U		
Chlorobenzene	100	1.0	U	1.0	U	1.0	U	1	U	0.5	U	0.5	U		
Chloroethane		2.0	U	1.0	U	1.0	U	1	U	1	U	1	U		
Chloroform		1.0	U	1.0	U	1.0	U	1	U	0.75	U	1.0	U		
Chloromethane		2.0	U	1.0	U	1.0	U	1	U	2	U	1.0	U		
cis-1,2-Dichloroethene	70	1.0	U	1.0	U	1.0	U	1	U	0.5	U	0.5	U		
cis-1,3-Dichloropropene						1.0	U	1	U	0.5	U	0.5	U		
Dibromochloromethane		0.5	U	1.0	U	1.0	U	1	U	0.5	U	0.5	U		
Dibromomethane		1.0	U	1.0	U	1.0	U	1	U	1	U	1	U		
Dichlorodifluoromethane		1.5	J	1.2		1.0	U	1	U	2	U	1.0	UJ		
Ethanol TIC						50.0	U	50	U			50.0	U		
Ethylbenzene	700	1.0	U	1.0	U	1.0	U	1	U	0.5	U	0.5	U		
Ethyl Ether						1.0	U	1	U	1	U	1	U		
Hexachlorobutadiene		0.4	U	1.0	UJ	1.0	U	1	U	0.5	U	0.4	U		
Isopropyl Ether						1.0	U	1	U	1	U	1	U		
Isopropylbenzene		1.0	U	1.0	U	1.0	U	1	U	0.5	U	0.5	U		
m,p-Xylenes	10,000	2.0	U	2.0	U	2.0	U	2	U	1	U	2.0	U		
Methylene Chloride	5.0	2.0	U	1.0	U	1.0	U	1	U	3	U	1.0	U		
Methyl tert-butyl Ether						1.0	U	1	U	1	U	1	U		
Naphthalene	100	5.0	U	1.0	UJ	1.0	U	1	U	1	U	1	U		
n-Butylbenzene		1.0	U	1.0	UJ	1.0	U	1	U	0.5	U	1.0	U		
n-Propylbenzene		1.0	U	1.0	U	1.0	U	1	U	0.5	U	1.0	U		
o-Xylene	10,000	1.0	U	1.0	U	1.0	U	1	U	1	U	1	U		
sec-Butylbenzene		1.0	U	1.0	U	1.0	U	1	U	0.5	U	1.0	U		
Styrene	100	1.0	U	1.0	U	1.0	U	1	U	0.5	U	1.0	U		
Tert-butylbenzene		1.0	U	1.0	U										



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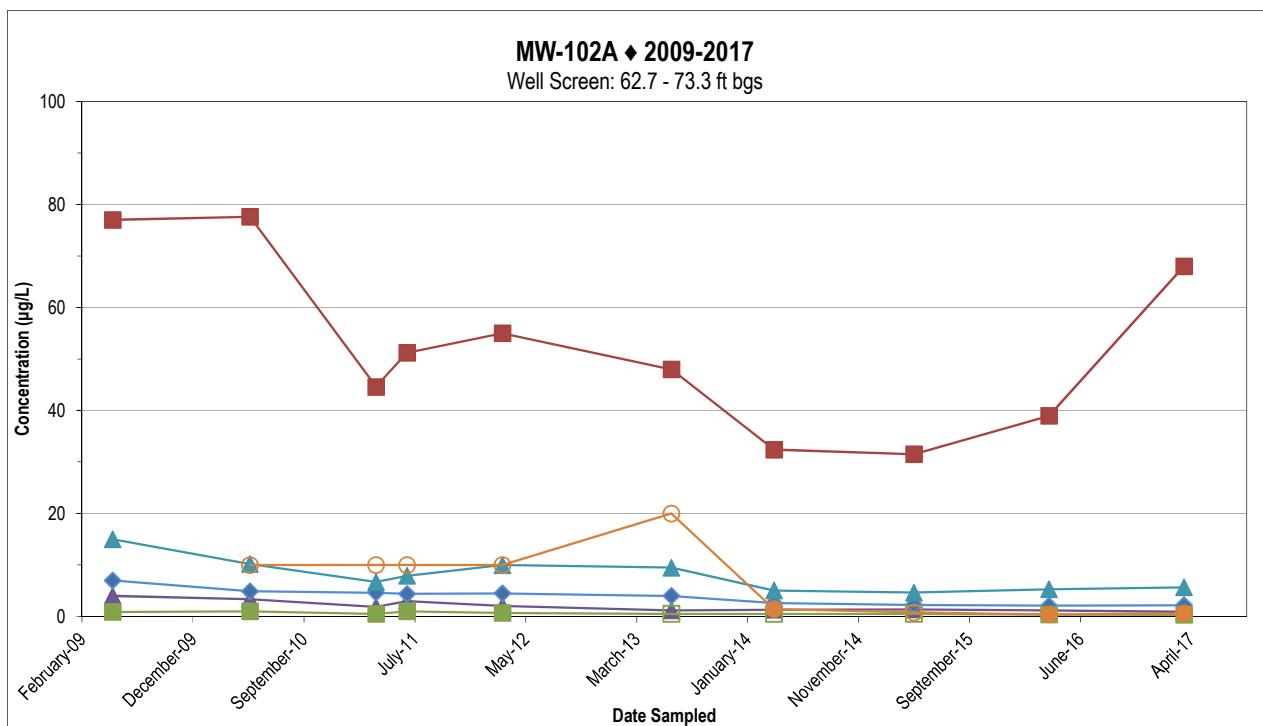
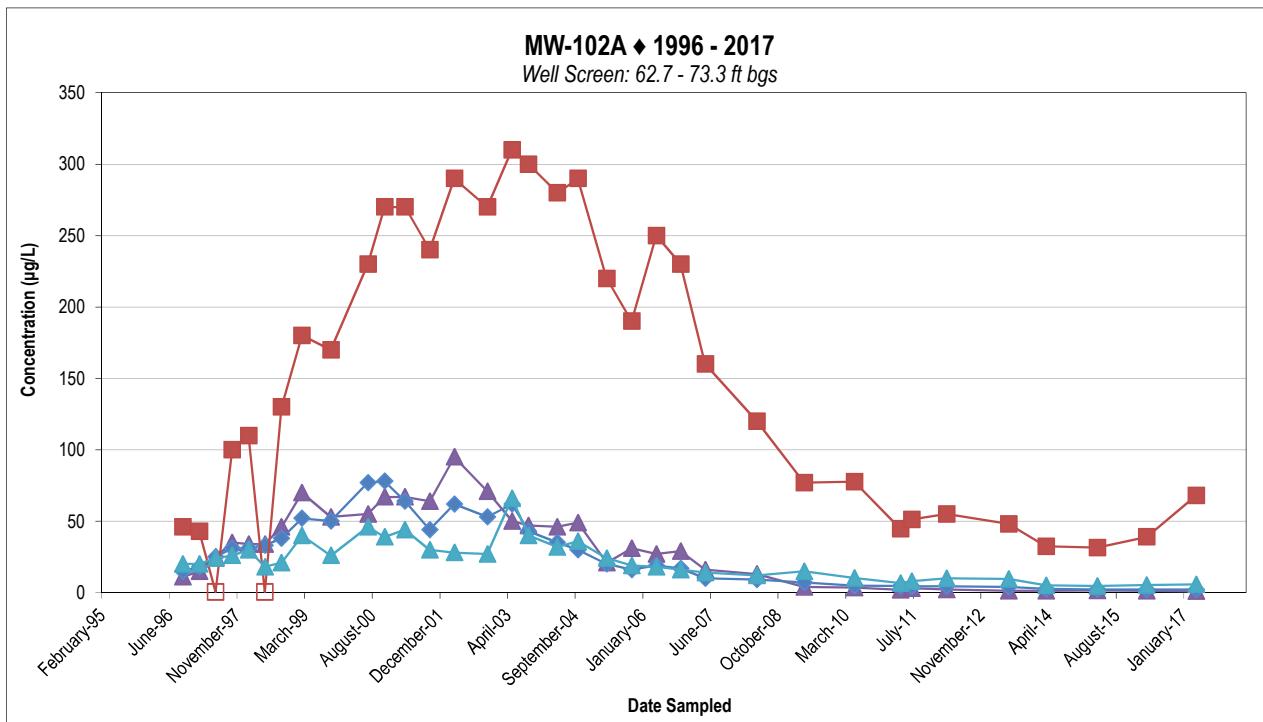
## APPENDIX E: SELECT VOC CONCENTRATIONS OVER TIME (2009 – 2017)



▲ Tetrachloroethene      ● Trichloroethene      ■ cis-1,2-Dichloroethene  
■ trans-1,2-Dichloroethene    △ Vinyl Chloride      ○ 1,4-Dioxane

#### NOTES

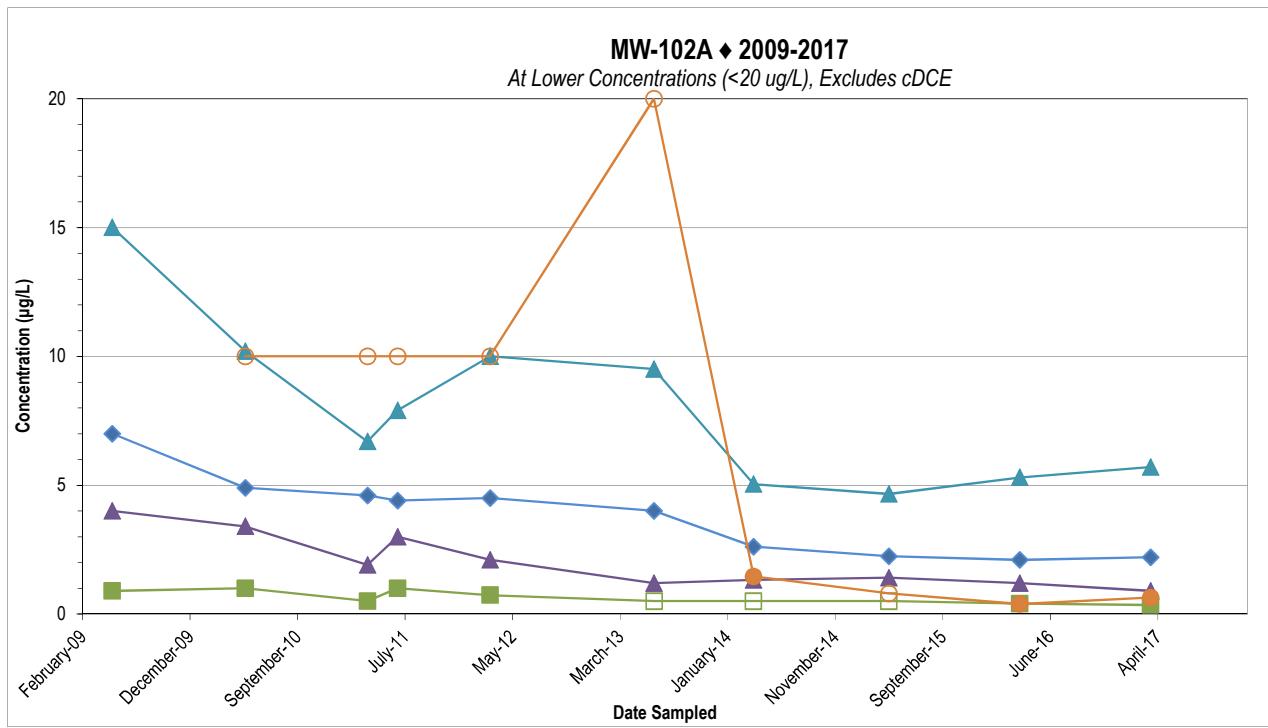
1. Detection limit for "non-detect" results (shown as hollow symbols) are posted as half of the laboratory's reporting limit.
2. Estimated values are posted "as-is" for comparison purposes.
3. Analysis of 1,4-dioxane began as part of the 2010 Annual Groundwater Monitoring event.



▲ Tetrachloroethene      ◆ Trichloroethylene      ■ cis-1,2-Dichloroethene  
■ trans-1,2-Dichloroethene      △ Vinyl Chloride      ○ 1,4-Dioxane

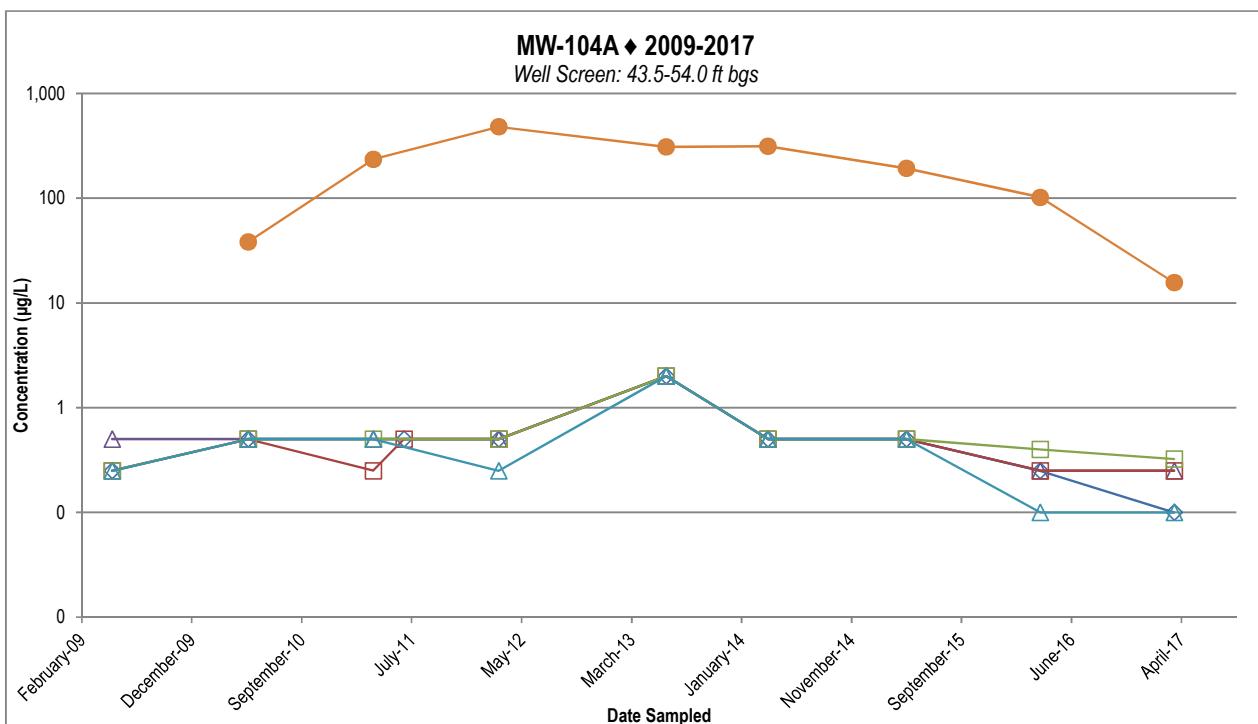
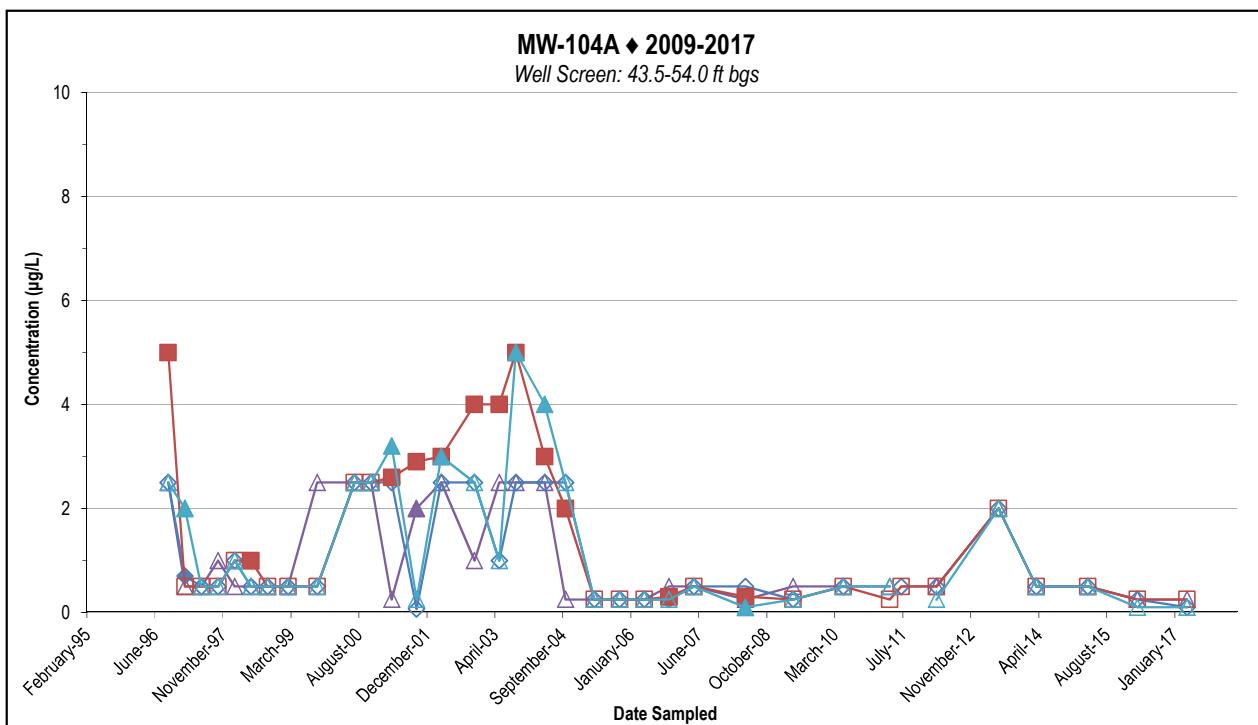
#### NOTES

1. Detection limit for "non-detect" results (shown as hollow symbols) are posted as half of the laboratory's reporting limit.
2. Estimated values are posted "as-is" for comparison purposes.
3. Analysis of 1,4-dioxane began as part of the 2010 Annual Groundwater Monitoring event.



#### NOTES

1. Detection limit for "non-detect" results (shown as hollow symbols) are posted as half of the laboratory's reporting limit.
2. Estimated values are posted "as-is" for comparison purposes.
3. Analysis of 1,4-dioxane began as part of the 2010 Annual Groundwater Monitoring event.



▲ Tetrachloroethene      ● Trichloroethene      ■ cis-1,2-Dichloroethene  
■ trans-1,2-Dichloroethene      △ Vinyl Chloride      ● 1,4-Dioxane

#### NOTES

1. Detection limit for "non-detect" results (shown as hollow symbols) are posted as half of the laboratory's reporting limit.
2. Estimated values are posted "as-is" for comparison purposes.
3. Analysis of 1,4-dioxane began as part of the 2010 Annual Groundwater Monitoring event.



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## APPENDIX F: ANNUAL FLARE INLET LABORATORY ANALYTICAL RESULTS (NOVEMBER 2016)



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July 22, 2016

Sean Driscoll  
Woodard & Curran, Inc. - RI  
33 Broad Street - One Weybosset Hill Floor  
Providence, RI 02903

Project Location: L&RR  
Client Job Number:  
Project Number: 0224263.60  
Laboratory Work Order Number: 16G0662

Enclosed are results of analyses for samples received by the laboratory on July 15, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Meghan E. Kelley". The signature is fluid and cursive, with "Meghan" on the first line and "E. Kelley" on the second line.

Meghan E. Kelley  
Project Manager

## Table of Contents

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B154208	8
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Woodard & Curran, Inc. - RI  
 33 Broad Street - One Weybosset Hill Floor  
 Providence, RI 02903  
 ATTN: Sean Driscoll

REPORT DATE: 7/22/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 0224263.60

#### **ANALYTICAL SUMMARY**

---

WORK ORDER NUMBER: 16G0662

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: L&RR

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
Influent	16G0662-01	Soil Gas		EPA TO-15	



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#### CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

#### EPA TO-15

##### Qualifications:

###### V-06

Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.

##### Analyte & Samples(s) Qualified:

###### 1,2,4-Trichlorobenzene

B154208-BS1

###### 2-Hexanone (MBK)

B154208-BS1

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

A handwritten signature in black ink, appearing to read "Lisa A. Worthington".

Lisa A. Worthington  
Project Manager



39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

### ANALYTICAL RESULTS

Project Location: L&RR  
 Date Received: 7/15/2016  
**Field Sample #:** Influent  
**Sample ID:** 16G0662-01  
 Sample Matrix: Soil Gas  
 Sampled: 7/15/2016 11:00

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1870  
 Canister Size: 6 liter  
 Flow Controller ID: 4627  
 Sample Type: 4 hr

**Work Order:** 16G0662  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -7  
 Receipt Vacuum(in Hg): -9.1  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

#### EPA TO-15

Analyte	ppbv			ug/m3			Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag/Qual	Results	RL				
Acetone	6400	1200		15000	2900		600	7/21/16 3:16	TPH
Benzene	1900	30		6100	96		600	7/21/16 3:16	TPH
Benzyl chloride	ND	30		ND	160		600	7/21/16 3:16	TPH
Bromodichloromethane	ND	30		ND	200		600	7/21/16 3:16	TPH
Bromoform	ND	30		ND	310		600	7/21/16 3:16	TPH
Bromomethane	ND	30		ND	120		600	7/21/16 3:16	TPH
1,3-Butadiene	ND	30		ND	66		600	7/21/16 3:16	TPH
2-Butanone (MEK)	2800	1200		8400	3500		600	7/21/16 3:16	TPH
Carbon Disulfide	ND	300		ND	930		600	7/21/16 3:16	TPH
Carbon Tetrachloride	ND	30		ND	190		600	7/21/16 3:16	TPH
Chlorobenzene	580	30		2700	140		600	7/21/16 3:16	TPH
Chloroethane	120	30		320	79		600	7/21/16 3:16	TPH
Chloroform	ND	30		ND	150		600	7/21/16 3:16	TPH
Chloromethane	84	60		170	120		600	7/21/16 3:16	TPH
Cyclohexane	1400	30		4800	100		600	7/21/16 3:16	TPH
Dibromochloromethane	ND	30		ND	260		600	7/21/16 3:16	TPH
1,2-Dibromoethane (EDB)	ND	30		ND	230		600	7/21/16 3:16	TPH
1,2-Dichlorobenzene	49	30		300	180		600	7/21/16 3:16	TPH
1,3-Dichlorobenzene	ND	30		ND	180		600	7/21/16 3:16	TPH
1,4-Dichlorobenzene	220	30		1300	180		600	7/21/16 3:16	TPH
Dichlorodifluoromethane (Freon 12)	290	30		1500	150		600	7/21/16 3:16	TPH
1,1-Dichloroethane	240	30		970	120		600	7/21/16 3:16	TPH
1,2-Dichloroethane	ND	30		ND	120		600	7/21/16 3:16	TPH
1,1-Dichloroethylene	ND	30		ND	120		600	7/21/16 3:16	TPH
cis-1,2-Dichloroethylene	800	30		3200	120		600	7/21/16 3:16	TPH
trans-1,2-Dichloroethylene	35	30		140	120		600	7/21/16 3:16	TPH
1,2-Dichloropropane	49	30		220	140		600	7/21/16 3:16	TPH
cis-1,3-Dichloropropene	ND	30		ND	140		600	7/21/16 3:16	TPH
trans-1,3-Dichloropropene	ND	30		ND	140		600	7/21/16 3:16	TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	110	30		800	210		600	7/21/16 3:16	TPH
1,4-Dioxane	550	300		2000	1100		600	7/21/16 3:16	TPH
Ethanol	20000	1200		37000	2300		600	7/21/16 3:16	TPH
Ethyl Acetate	1000	30		3700	110		600	7/21/16 3:16	TPH
Ethylbenzene	9000	30		39000	130		600	7/21/16 3:16	TPH
4-Ethyltoluene	490	30		2400	150		600	7/21/16 3:16	TPH
Heptane	1600	30		6400	120		600	7/21/16 3:16	TPH
Hexachlorobutadiene	ND	30		ND	320		600	7/21/16 3:16	TPH



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#### ANALYTICAL RESULTS

Project Location: L&RR  
 Date Received: 7/15/2016  
**Field Sample #:** Influent  
**Sample ID:** 16G0662-01  
 Sample Matrix: Soil Gas  
 Sampled: 7/15/2016 11:00

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1870  
 Canister Size: 6 liter  
 Flow Controller ID: 4627  
 Sample Type: 4 hr

**Work Order:** 16G0662  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -7  
 Receipt Vacuum(in Hg): -9.1  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

#### EPA TO-15

Analyte	ppbv		ug/m3		Dilution	Date/Time Analyzed	Analyst	
	Results	RL	Flag/Qual	Results	RL			
Hexane	2300	1200		8000	4200	600	7/21/16 3:16	TPH
2-Hexanone (MBK)	ND	30		ND	120	600	7/21/16 3:16	TPH
Isopropanol	5300	1200		13000	2900	600	7/21/16 3:16	TPH
Methyl tert-Butyl Ether (MTBE)	ND	30		ND	110	600	7/21/16 3:16	TPH
Methylene Chloride	ND	300		ND	1000	600	7/21/16 3:16	TPH
4-Methyl-2-pentanone (MIBK)	490	30		2000	120	600	7/21/16 3:16	TPH
Naphthalene	220	30		1200	160	600	7/21/16 3:16	TPH
Propene	10000	1200		18000	2100	600	7/21/16 3:16	TPH
Styrene	160	30		660	130	600	7/21/16 3:16	TPH
1,1,2,2-Tetrachloroethane	ND	30		ND	210	600	7/21/16 3:16	TPH
Tetrachloroethylene	740	30		5000	200	600	7/21/16 3:16	TPH
Tetrahydrofuran	1200	30		3400	88	600	7/21/16 3:16	TPH
Toluene	24000	30		89000	110	600	7/21/16 3:16	TPH
1,2,4-Trichlorobenzene	ND	30		ND	220	600	7/21/16 3:16	TPH
1,1,1-Trichloroethane	ND	30		ND	160	600	7/21/16 3:16	TPH
1,1,2-Trichloroethane	ND	30		ND	160	600	7/21/16 3:16	TPH
Trichloroethylene	120	30		670	160	600	7/21/16 3:16	TPH
Trichlorofluoromethane (Freon 11)	ND	120		ND	670	600	7/21/16 3:16	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	120		ND	920	600	7/21/16 3:16	TPH
1,2,4-Trimethylbenzene	1000	30		5100	150	600	7/21/16 3:16	TPH
1,3,5-Trimethylbenzene	560	30		2700	150	600	7/21/16 3:16	TPH
Vinyl Acetate	ND	600		ND	2100	600	7/21/16 3:16	TPH
Vinyl Chloride	960	30		2500	77	600	7/21/16 3:16	TPH
m&p-Xylene	15000	60		66000	260	600	7/21/16 3:16	TPH
o-Xylene	4200	30		18000	130	600	7/21/16 3:16	TPH

Surrogates

% Recovery

% REC Limits

4-Bromofluorobenzene (1)	100	70-130	7/21/16 3:16
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**Sample Extraction Data**

**Prep Method: TO-15 Prep-EPA TO-15**

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
16G0662-01 [Influent]	B154208	1.5	200	5	1000	400	200	07/20/16



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**QUALITY CONTROL****Air Toxics by EPA Compendium Methods - Quality Control**

Analyte	ppbv Results	RL	ug/m3 Results	RL	Spike Level ppbv	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Flag/Qual
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**Batch B154208 - TO-15 Prep****Blank (B154208-BLK1)** Prepared & Analyzed: 07/20/16

Acetone	ND	1.4
Benzene	ND	0.035
Benzyl chloride	ND	0.035
Bromodichloromethane	ND	0.035
Bromoform	ND	0.035
Bromomethane	ND	0.035
1,3-Butadiene	ND	0.035
2-Butanone (MEK)	ND	1.4
Carbon Disulfide	ND	0.35
Carbon Tetrachloride	ND	0.035
Chlorobenzene	ND	0.035
Chloroethane	ND	0.035
Chloroform	ND	0.035
Chloromethane	ND	0.070
Cyclohexane	ND	0.035
Dibromochloromethane	ND	0.035
1,2-Dibromoethane (EDB)	ND	0.035
1,2-Dichlorobenzene	ND	0.035
1,3-Dichlorobenzene	ND	0.035
1,4-Dichlorobenzene	ND	0.035
Dichlorodifluoromethane (Freon 12)	ND	0.035
1,1-Dichloroethane	ND	0.035
1,2-Dichloroethane	ND	0.035
1,1-Dichloroethylene	ND	0.035
cis-1,2-Dichloroethylene	ND	0.035
trans-1,2-Dichloroethylene	ND	0.035
1,2-Dichloropropane	ND	0.035
cis-1,3-Dichloropropene	ND	0.035
trans-1,3-Dichloropropene	ND	0.035
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.035
1,4-Dioxane	ND	0.35
Ethanol	ND	1.4
Ethyl Acetate	ND	0.035
Ethylbenzene	ND	0.035
4-Ethyltoluene	ND	0.035
Heptane	ND	0.035
Hexachlorobutadiene	ND	0.035
Hexane	ND	1.4
2-Hexanone (MBK)	ND	0.035
Isopropanol	ND	1.4
Methyl tert-Butyl Ether (MTBE)	ND	0.035
Methylene Chloride	ND	0.35
4-Methyl-2-pentanone (MIBK)	ND	0.035
Naphthalene	ND	0.035
Propene	ND	1.4
Styrene	ND	0.035



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**QUALITY CONTROL****Air Toxics by EPA Compendium Methods - Quality Control**

Analyte	ppbv Results	RL	ug/m3 Results	RL	Spike Level ppbv	Source Result	%REC %REC	RPD Limits	RPD RPD	RPD Limit	Flag/Qual
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**Batch B154208 - TO-15 Prep**

<b>Blank (B154208-BLK1)</b>	Prepared & Analyzed: 07/20/16										
1,1,2,2-Tetrachloroethane	ND	0.035									
Tetrachloroethylene	ND	0.035									
Tetrahydrofuran	ND	0.035									
Toluene	ND	0.035									
1,2,4-Trichlorobenzene	ND	0.035									
1,1,1-Trichloroethane	ND	0.035									
1,1,2-Trichloroethane	ND	0.035									
Trichloroethylene	ND	0.035									
Trichlorofluoromethane (Freon 11)	ND	0.14									
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.14									
1,2,4-Trimethylbenzene	ND	0.035									
1,3,5-Trimethylbenzene	ND	0.035									
Vinyl Acetate	ND	0.70									
Vinyl Chloride	ND	0.035									
m&p-Xylene	ND	0.070									
o-Xylene	ND	0.035									
<i>Surrogate: 4-Bromofluorobenzene (I)</i>	7.55		8.00		94.3		70-130				

<b>LCS (B154208-BS1)</b>	Prepared & Analyzed: 07/20/16						
Acetone	4.86		5.00		97.3		70-130
Benzene	5.26		5.00		105		70-130
Benzyl chloride	5.92		5.00		118		70-130
Bromodichloromethane	4.78		5.00		95.6		70-130
Bromoform	4.66		5.00		93.3		70-130
Bromomethane	3.86		5.00		77.1		70-130
1,3-Butadiene	4.07		5.00		81.4		70-130
2-Butanone (MEK)	4.74		5.00		94.7		70-130
Carbon Disulfide	4.11		5.00		82.2		70-130
Carbon Tetrachloride	4.53		5.00		90.7		70-130
Chlorobenzene	4.83		5.00		96.6		70-130
Chloroethane	3.98		5.00		79.7		70-130
Chloroform	3.99		5.00		79.8		70-130
Chloromethane	4.33		5.00		86.6		70-130
Cyclohexane	5.36		5.00		107		70-130
Dibromochloromethane	4.75		5.00		95.0		70-130
1,2-Dibromoethane (EDB)	4.98		5.00		99.5		70-130
1,2-Dichlorobenzene	5.42		5.00		108		70-130
1,3-Dichlorobenzene	5.65		5.00		113		70-130
1,4-Dichlorobenzene	5.42		5.00		108		70-130
Dichlorodifluoromethane (Freon 12)	4.30		5.00		86.1		70-130
1,1-Dichloroethane	4.17		5.00		83.3		70-130
1,2-Dichloroethane	4.23		5.00		84.5		70-130
1,1-Dichloroethylene	4.33		5.00		86.7		70-130
cis-1,2-Dichloroethylene	4.33		5.00		86.6		70-130
trans-1,2-Dichloroethylene	4.31		5.00		86.1		70-130
1,2-Dichloropropane	5.05		5.00		101		70-130



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**QUALITY CONTROL****Air Toxics by EPA Compendium Methods - Quality Control**

Analyte	ppbv Results	RL	ug/m3 Results	RL	Spike Level ppbv	Source Result	%REC %REC	Limits	RPD RPD	Limit	Flag/Qual
<b>Batch B154208 - TO-15 Prep</b>											
<b>LCS (B154208-BS1)</b>											
Prepared & Analyzed: 07/20/16											
cis-1,3-Dichloropropene	5.33		5.00		107	70-130					
trans-1,3-Dichloropropene	5.57		5.00		111	70-130					
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	4.00		5.00		79.9	70-130					
1,4-Dioxane	5.28		5.00		106	70-130					
Ethanol	4.04		5.00		80.7	70-130					
Ethyl Acetate	4.76		5.00		95.2	70-130					
Ethylbenzene	5.46		5.00		109	70-130					
4-Ethyltoluene	4.90		5.00		98.1	70-130					
Heptane	5.72		5.00		114	70-130					
Hexachlorobutadiene	5.08		5.00		102	70-130					
Hexane	4.93		5.00		98.6	70-130					
2-Hexanone (MBK)	6.11		5.00		122	70-130					V-06
Isopropanol	4.89		5.00		97.8	70-130					
Methyl tert-Butyl Ether (MTBE)	4.96		5.00		99.3	70-130					
Methylene Chloride	4.64		5.00		92.8	70-130					
4-Methyl-2-pentanone (MIBK)	5.88		5.00		118	70-130					
Naphthalene	4.70		5.00		94.1	70-130					
Propene	5.22		5.00		104	70-130					
Styrene	4.36		5.00		87.1	70-130					
1,1,2,2-Tetrachloroethane	5.22		5.00		104	70-130					
Tetrachloroethylene	4.83		5.00		96.6	70-130					
Tetrahydrofuran	5.19		5.00		104	70-130					
Toluene	5.65		5.00		113	70-130					
1,2,4-Trichlorobenzene	6.35		5.00		127	70-130					V-06
1,1,1-Trichloroethane	4.84		5.00		96.8	70-130					
1,1,2-Trichloroethane	5.29		5.00		106	70-130					
Trichloroethylene	5.00		5.00		100	70-130					
Trichlorofluoromethane (Freon 11)	3.99		5.00		79.8	70-130					
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	3.89		5.00		77.7	70-130					
1,2,4-Trimethylbenzene	5.04		5.00		101	70-130					
1,3,5-Trimethylbenzene	4.97		5.00		99.3	70-130					
Vinyl Acetate	4.57		5.00		91.3	70-130					
Vinyl Chloride	3.98		5.00		79.5	70-130					
m&p-Xylene	12.3		10.0		123	70-130					
o-Xylene	6.15		5.00		123	70-130					
<i>Surrogate: 4-Bromofluorobenzene (l)</i>	8.12		8.00		102	70-130					



---

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**FLAG/QUALIFIER SUMMARY**

- \* QC result is outside of established limits.
- † Wide recovery limits established for difficult compound.
- ‡ Wide RPD limits established for difficult compound.
- # Data exceeded client recommended or regulatory level
- ND Not Detected
- RL Reporting Limit
- DL Method Detection Limit
- MCL Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

- V-06 Continuing calibration did not meet method specifications and was biased on the high side for this compound.  
Increased uncertainty is associated with the reported value which is likely to be biased on the high side.



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#### CERTIFICATIONS

##### Certified Analyses included in this Report

Analyte	Certifications
<b>EPA TO-15 in Air</b>	
Acetone	AIHA,NY,ME
Benzene	AIHA,FL,NJ,NY,VA,ME
Benzyl chloride	AIHA,FL,NJ,NY,VA,ME
Bromodichloromethane	AIHA,NJ,NY,VA,ME
Bromoform	AIHA,NJ,NY,VA,ME
Bromomethane	AIHA,FL,NJ,NY,ME
1,3-Butadiene	AIHA,NJ,NY,VA,ME
2-Butanone (MEK)	AIHA,FL,NJ,NY,VA,ME
Carbon Disulfide	AIHA,NJ,NY,VA,ME
Carbon Tetrachloride	AIHA,FL,NJ,NY,VA,ME
Chlorobenzene	AIHA,FL,NJ,NY,VA,ME
Chloroethane	AIHA,FL,NJ,NY,VA,ME
Chloroform	AIHA,FL,NJ,NY,VA,ME
Chloromethane	AIHA,FL,NJ,NY,VA,ME
Cyclohexane	AIHA,NJ,NY,VA,ME
Dibromochloromethane	AIHA,NY,ME
1,2-Dibromoethane (EDB)	AIHA,NJ,NY,ME
1,2-Dichlorobenzene	AIHA,FL,NJ,NY,VA,ME
1,3-Dichlorobenzene	AIHA,NJ,NY,ME
1,4-Dichlorobenzene	AIHA,FL,NJ,NY,VA,ME
Dichlorodifluoromethane (Freon 12)	AIHA,NY,ME
1,1-Dichloroethane	AIHA,FL,NJ,NY,VA,ME
1,2-Dichloroethane	AIHA,FL,NJ,NY,VA,ME
1,1-Dichloroethylene	AIHA,FL,NJ,NY,VA,ME
cis-1,2-Dichloroethylene	AIHA,FL,NY,VA,ME
trans-1,2-Dichloroethylene	AIHA,NJ,NY,VA,ME
1,2-Dichloropropane	AIHA,FL,NJ,NY,VA,ME
cis-1,3-Dichloropropene	AIHA,FL,NJ,NY,VA,ME
trans-1,3-Dichloropropene	AIHA,NY,ME
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	AIHA,NJ,NY,VA,ME
1,4-Dioxane	AIHA,NJ,NY,VA,ME
Ethanol	AIHA
Ethyl Acetate	AIHA
Ethylbenzene	AIHA,FL,NJ,NY,VA,ME
4-Ethyltoluene	AIHA,NJ
Heptane	AIHA,NJ,NY,VA,ME
Hexachlorobutadiene	AIHA,NJ,NY,VA,ME
Hexane	AIHA,FL,NJ,NY,VA,ME
2-Hexanone (MBK)	AIHA
Isopropanol	AIHA,NY,ME
Methyl tert-Butyl Ether (MTBE)	AIHA,FL,NJ,NY,VA,ME
Methylene Chloride	AIHA,FL,NJ,NY,VA,ME
4-Methyl-2-pentanone (MIBK)	AIHA,FL,NJ,NY,ME
Naphthalene	NY,ME
Propene	AIHA
Styrene	AIHA,FL,NJ,NY,VA,ME
1,1,2,2-Tetrachloroethane	AIHA,FL,NJ,NY,VA,ME



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#### CERTIFICATIONS

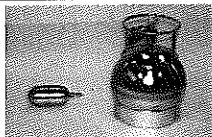
##### Certified Analyses included in this Report

Analyte	Certifications
<b>EPA TO-15 in Air</b>	
Tetrachloroethylene	AIHA,FL,NJ,NY,VA,ME
Tetrahydrofuran	AIHA
Toluene	AIHA,FL,NJ,NY,VA,ME
1,2,4-Trichlorobenzene	AIHA,NJ,NY,VA,ME
1,1,1-Trichloroethane	AIHA,FL,NJ,NY,VA,ME
1,1,2-Trichloroethane	AIHA,FL,NJ,NY,VA,ME
Trichloroethylene	AIHA,FL,NJ,NY,VA,ME
Trichlorofluoromethane (Freon 11)	AIHA,NY,ME
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	AIHA,NJ,NY,VA,ME
1,2,4-Trimethylbenzene	AIHA,NJ,NY,ME
1,3,5-Trimethylbenzene	AIHA,NJ,NY,ME
Vinyl Acetate	AIHA,FL,NJ,NY,VA,ME
Vinyl Chloride	AIHA,FL,NJ,NY,VA,ME
m&p-Xylene	AIHA,FL,NJ,NY,VA,ME
o-Xylene	AIHA,FL,NJ,NY,VA,ME

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2017
CT	Connecticut Department of Public Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2017
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2017
FL	Florida Department of Health	E871027 NELAP	06/30/2017
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2017
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2016





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## AIR Only Receipt Checklist

39 Spruce St.  
East Longmeadow, MA.  
01028  
P: 413-525-2332  
F: 413-525-6405

CLIENT NAME Woodard & Curran RECEIVED BY: BLT DATE: 7/15/10

1) Was the chain(s) of custody relinquished and signed?

Yes  No \_\_\_\_\_

2) Does the chain agree with the samples?

Yes  No \_\_\_\_\_

If not, explain:

3) Are all the samples in good condition?

Yes  No \_\_\_\_\_

If not, explain:

4) Are there any samples "On Hold"?

Yes \_\_\_\_\_ No  Stored where: \_\_\_\_\_

5) Are there any RUSH or SHORT HOLDING TIME samples?

Yes \_\_\_\_\_ No

Who was notified \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

Permission to subcontract samples? Yes  No \_\_\_\_\_

(Walk-in clients only) if not already approved

Client Signature: \_\_\_\_\_

6) Location where samples are stored:

Airtab

7) Number of cans Individually Certified or Batch Certified? None

### Containers received at Con-Test

	# of Containers	Types (Size, Duration)
Summa Cans (TO-14/TO-15/APH)	2	cel
Tedlar Bags		
TO-17 Tubes		
Regulators	2	4 hr
Restrictors		
Hg/Hopcalite Tube (NIOSH 6009) (TO-4A/ TO-10A/TO-13) PUFs		
PCB Florisil Tubes (NIOSH 5503)		
Air cassette		
PM 2.5/PM 10		
TO-11A Cartridges		
Other		

Unused Summas/PUF Media:

1713 (-29.6)

Unused Regulators:

4628

1) Was all media (used & unused) checked into the WASP?

2) Were all returned summa cans, Restrictors & Regulators and PUF's documented as returned in the Air Lab Inbound/Outbound Excel Spreadsheet?

Laboratory Comments:											

Page 2 of 2

Login Sample Receipt Checklist(Rejection Criteria Listing - Using Sample Acceptance Policy)Any False statement will be brought to the attention of Client

<u>Question</u>	<u>Answer (True/False)</u>	<u>Comment</u>
	T/F/NA	
1) The coolers'/boxes' custody seal, if present, is intact.	T	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) Samples are received within Holding Time.	T	
10) Sample containers have legible labels.	T	
11) Containers/media are not broken or leaking and valves and caps are closed tightly.	T	
12) Sample collection date/times are provided.	T	
13) Appropriate sample/media containers are used.	T	
14) There is sufficient volume for all requested analyses, including any requested MS/MSDs.	T	
15) Trip blanks provided if applicable.	T	

Who notified of False statements?

Log-In Technician Initials:

Date/Time:

Date/Time:

RUF 7/15/14 1530

Doc #278 Rev. 5 October 2014



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May 9, 2017

Sean Driscoll  
Woodard & Curran, Inc. - RI  
33 Broad Street - One Weybosset Hill Floor  
Providence, RI 02903

Project Location: L&RR - North Smithfield

Client Job Number:

Project Number: 0224263.70

Laboratory Work Order Number: 17E0003

Enclosed are results of analyses for samples received by the laboratory on April 28, 2017. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Meghan S. Kelley". The signature is fluid and cursive, with "Meghan" and "S." on the first line and "Kelley" on the second line.

Meghan E. Kelley  
Project Manager

## Table of Contents

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Woodard & Curran, Inc. - RI  
 33 Broad Street - One Weybosset Hill Floor  
 Providence, RI 02903  
 ATTN: Sean Driscoll

REPORT DATE: 5/9/2017

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 0224263.70

#### **ANALYTICAL SUMMARY**

---

WORK ORDER NUMBER: 17E0003

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: L&RR - North Smithfield

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
Influent	17E0003-01	Soil Gas		EPA TO-15	



---

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#### CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

#### EPA TO-15

---

**Qualifications:****Z-01**

Compound fails the method requirement of 70-130% recovery for the LCS. Is classified by the lab as a difficult compound and passes the in house limits of 50-150%.

**Analyte & Samples(s) Qualified:****Ethanol**

17E0003-01RE1[Influent], B176085-BLK1, B176085-BS1

**Naphthalene**

B176085-BS1

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

A handwritten signature in black ink, appearing to read "Lisa A. Worthington".

Lisa A. Worthington  
Project Manager

**ANALYTICAL RESULTS**

Project Location: L&amp;RR - North Smithfield

Date Received: 4/28/2017

**Field Sample #:** Influent**Sample ID:** 17E0003-01

Sample Matrix: Soil Gas

Sampled: 4/28/2017 12:15

Sample Description/Location:

Sub Description/Location:

Canister ID: 9010

Canister Size: 6 liter

Flow Controller ID: 4620

Sample Type: 4 hr

**Work Order:** 17E0003

Initial Vacuum(in Hg): -29

Final Vacuum(in Hg): -8.5

Receipt Vacuum(in Hg): -10

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			ug/m3			Dilution	Date/Time Analyzed	Analyst
	Results	RL	Flag/Qual	Results	RL				
Acetone	4100	1200		9800	2900		600	5/4/17 5:28	CMR
Benzene	880	3.0		2800	9.6		60	5/4/17 4:51	CMR
Benzyl chloride	ND	3.0		ND	16		60	5/4/17 4:51	CMR
Bromodichloromethane	ND	3.0		ND	20		60	5/4/17 4:51	CMR
Bromoform	ND	3.0		ND	31		60	5/4/17 4:51	CMR
Bromomethane	ND	3.0		ND	12		60	5/4/17 4:51	CMR
1,3-Butadiene	ND	3.0		ND	6.6		60	5/4/17 4:51	CMR
2-Butanone (MEK)	1900	120		5500	350		60	5/4/17 4:51	CMR
Carbon Disulfide	ND	30		ND	93		60	5/4/17 4:51	CMR
Carbon Tetrachloride	ND	3.0		ND	19		60	5/4/17 4:51	CMR
Chlorobenzene	65	3.0		300	14		60	5/4/17 4:51	CMR
Chloroethane	73	3.0		190	7.9		60	5/4/17 4:51	CMR
Chloroform	ND	3.0		ND	15		60	5/4/17 4:51	CMR
Chloromethane	16	6.0		33	12		60	5/4/17 4:51	CMR
Cyclohexane	780	6.0		2700	21		60	5/4/17 4:51	CMR
Dibromochloromethane	ND	3.0		ND	26		60	5/4/17 4:51	CMR
1,2-Dibromoethane (EDB)	ND	3.0		ND	23		60	5/4/17 4:51	CMR
1,2-Dichlorobenzene	ND	3.0		ND	18		60	5/4/17 4:51	CMR
1,3-Dichlorobenzene	ND	3.0		ND	18		60	5/4/17 4:51	CMR
1,4-Dichlorobenzene	ND	3.0		ND	18		60	5/4/17 4:51	CMR
Dichlorodifluoromethane (Freon 12)	250	3.0		1200	15		60	5/4/17 4:51	CMR
1,1-Dichloroethane	78	3.0		310	12		60	5/4/17 4:51	CMR
1,2-Dichloroethane	ND	3.0		ND	12		60	5/4/17 4:51	CMR
1,1-Dichloroethylene	6.7	3.0		26	12		60	5/4/17 4:51	CMR
cis-1,2-Dichloroethylene	230	3.0		920	12		60	5/4/17 4:51	CMR
trans-1,2-Dichloroethylene	9.9	3.0		39	12		60	5/4/17 4:51	CMR
1,2-Dichloropropane	16	3.0		73	14		60	5/4/17 4:51	CMR
cis-1,3-Dichloropropene	ND	3.0		ND	14		60	5/4/17 4:51	CMR
trans-1,3-Dichloropropene	ND	3.0		ND	14		60	5/4/17 4:51	CMR
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	86	3.0		600	21		60	5/4/17 4:51	CMR
1,4-Dioxane	140	30		490	110		60	5/4/17 4:51	CMR
Ethanol	7600	1200	Z-01	14000	2300		600	5/4/17 5:28	CMR
Ethyl Acetate	540	3.0		2000	11		60	5/4/17 4:51	CMR
Ethylbenzene	2400	3.0		11000	13		60	5/4/17 4:51	CMR
4-Ethyltoluene	20	3.0		98	15		60	5/4/17 4:51	CMR
Heptane	620	3.0		2600	12		60	5/4/17 4:51	CMR
Hexachlorobutadiene	ND	3.0		ND	32		60	5/4/17 4:51	CMR



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#### ANALYTICAL RESULTS

Project Location: L&RR - North Smithfield

Date Received: 4/28/2017

**Field Sample #:** Influent

**Sample ID:** 17E0003-01

Sample Matrix: Soil Gas

Sampled: 4/28/2017 12:15

Sample Description/Location:

Sub Description/Location:

Canister ID: 9010

Canister Size: 6 liter

Flow Controller ID: 4620

Sample Type: 4 hr

**Work Order:** 17E0003

Initial Vacuum(in Hg): -29

Final Vacuum(in Hg): -8.5

Receipt Vacuum(in Hg): -10

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

#### EPA TO-15

Analyte	ppbv		ug/m3		Dilution	Date/Time Analyzed	Analyst	
	Results	RL	Flag/Qual	Results	RL			
Hexane	840	120		2900	420	60	5/4/17 4:51	CMR
2-Hexanone (MBK)	ND	6.0		ND	25	60	5/4/17 4:51	CMR
Isopropanol	2100	120		5100	290	60	5/4/17 4:51	CMR
Methyl tert-Butyl Ether (MTBE)	3.7	3.0		13	11	60	5/4/17 4:51	CMR
Methylene Chloride	50	30		170	100	60	5/4/17 4:51	CMR
4-Methyl-2-pentanone (MIBK)	250	6.0		1000	25	60	5/4/17 4:51	CMR
Naphthalene	ND	3.0		ND	16	60	5/4/17 4:51	CMR
Propene	14000	1200		24000	2100	600	5/4/17 5:28	CMR
Styrene	15	3.0		65	13	60	5/4/17 4:51	CMR
1,1,2,2-Tetrachloroethane	ND	3.0		ND	21	60	5/4/17 4:51	CMR
Tetrachloroethylene	42	3.0		280	20	60	5/4/17 4:51	CMR
Tetrahydrofuran	600	12		1800	35	60	5/4/17 4:51	CMR
Toluene	13000	30		51000	110	600	5/4/17 5:28	CMR
1,2,4-Trichlorobenzene	ND	3.0		ND	22	60	5/4/17 4:51	CMR
1,1,1-Trichloroethane	ND	3.0		ND	16	60	5/4/17 4:51	CMR
1,1,2-Trichloroethane	ND	3.0		ND	16	60	5/4/17 4:51	CMR
Trichloroethylene	35	3.0		190	16	60	5/4/17 4:51	CMR
Trichlorofluoromethane (Freon 11)	ND	12		ND	67	60	5/4/17 4:51	CMR
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	12		ND	92	60	5/4/17 4:51	CMR
1,2,4-Trimethylbenzene	7.4	3.0		36	15	60	5/4/17 4:51	CMR
1,3,5-Trimethylbenzene	11	3.0		54	15	60	5/4/17 4:51	CMR
Vinyl Acetate	ND	60		ND	210	60	5/4/17 4:51	CMR
Vinyl Chloride	590	3.0		1500	7.7	60	5/4/17 4:51	CMR
m&p-Xylene	3100	60		14000	260	600	5/4/17 5:28	CMR
o-Xylene	700	3.0		3000	13	60	5/4/17 4:51	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	108	70-130	5/4/17 4:51
4-Bromofluorobenzene (1)	98.0	70-130	5/4/17 5:28



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### Sample Extraction Data

**Prep Method: TO-15 Prep-EPA TO-15**

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
17E0003-01 [Influent]	B176085	1.5	1	N/A	1000	400	10	05/03/17
17E0003-01RE1 [Influent]	B176085	1.5	200	5	1000	400	200	05/03/17



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**QUALITY CONTROL****Air Toxics by EPA Compendium Methods - Quality Control**

Analyte	ppbv Results	RL	ug/m3 Results	RL	Spike Level ppbv	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Flag/Qual
---------	-----------------	----	------------------	----	---------------------	------------------	------	----------------	------------	--------------	-----------

**Batch B176085 - TO-15 Prep**

<b>Blank (B176085-BLK1)</b>	Prepared & Analyzed: 05/03/17									
Acetone	ND	1.4								
Benzene	ND	0.034								
Benzyl chloride	ND	0.034								
Bromodichloromethane	ND	0.034								
Bromoform	ND	0.034								
Bromomethane	ND	0.034								
1,3-Butadiene	ND	0.034								
2-Butanone (MEK)	ND	1.4								
Carbon Disulfide	ND	0.34								
Carbon Tetrachloride	ND	0.034								
Chlorobenzene	ND	0.034								
Chloroethane	ND	0.034								
Chloroform	ND	0.034								
Chloromethane	ND	0.068								
Cyclohexane	ND	0.034								
Dibromochloromethane	ND	0.034								
1,2-Dibromoethane (EDB)	ND	0.034								
1,2-Dichlorobenzene	ND	0.034								
1,3-Dichlorobenzene	ND	0.034								
1,4-Dichlorobenzene	ND	0.034								
Dichlorodifluoromethane (Freon 12)	ND	0.034								
1,1-Dichloroethane	ND	0.034								
1,2-Dichloroethane	ND	0.034								
1,1-Dichloroethylene	ND	0.034								
cis-1,2-Dichloroethylene	ND	0.034								
trans-1,2-Dichloroethylene	ND	0.034								
1,2-Dichloroproppane	ND	0.034								
cis-1,3-Dichloropropene	ND	0.034								
trans-1,3-Dichloropropene	ND	0.034								
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.034								
1,4-Dioxane	ND	0.34								
Ethanol	ND	1.4								
Ethyl Acetate	ND	0.034								
Ethylbenzene	ND	0.034								
4-Ethyltoluene	ND	0.034								
Heptane	ND	0.034								
Hexachlorobutadiene	ND	0.034								
Hexane	ND	1.4								
2-Hexanone (MBK)	ND	0.034								
Isopropanol	ND	1.4								
Methyl tert-Butyl Ether (MTBE)	ND	0.034								
Methylene Chloride	ND	0.34								
4-Methyl-2-pentanone (MIBK)	ND	0.034								
Naphthalene	ND	0.034								
Propene	ND	1.4								
Styrene	ND	0.034								

Z-01



39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

**QUALITY CONTROL****Air Toxics by EPA Compendium Methods - Quality Control**

Analyte	ppbv Results	RL	ug/m3 Results	RL	Spike Level ppbv	Source Result	%REC %REC	RPD Limits	RPD RPD	RPD Limit	Flag/Qual
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**Batch B176085 - TO-15 Prep**

<b>Blank (B176085-BLK1)</b>	Prepared & Analyzed: 05/03/17										
1,1,2,2-Tetrachloroethane	ND	0.034									
Tetrachloroethylene	ND	0.034									
Tetrahydrofuran	ND	0.034									
Toluene	ND	0.034									
1,2,4-Trichlorobenzene	ND	0.034									
1,1,1-Trichloroethane	ND	0.034									
1,1,2-Trichloroethane	ND	0.034									
Trichloroethylene	ND	0.034									
Trichlorofluoromethane (Freon 11)	ND	0.14									
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.14									
1,2,4-Trimethylbenzene	ND	0.034									
1,3,5-Trimethylbenzene	ND	0.034									
Vinyl Acetate	ND	0.68									
Vinyl Chloride	ND	0.034									
m&p-Xylene	ND	0.068									
o-Xylene	ND	0.034									
<i>Surrogate: 4-Bromofluorobenzene (1)</i>	7.83		8.00		97.9		70-130				

<b>LCS (B176085-BS1)</b>	Prepared & Analyzed: 05/03/17						
Acetone	4.31		5.00		86.2		70-130
Benzene	5.12		5.00		102		70-130
Benzyl chloride	5.44		5.00		109		70-130
Bromodichloromethane	5.59		5.00		112		70-130
Bromoform	5.87		5.00		117		70-130
Bromomethane	4.33		5.00		86.5		70-130
1,3-Butadiene	3.81		5.00		76.2		70-130
2-Butanone (MEK)	5.20		5.00		104		70-130
Carbon Disulfide	4.91		5.00		98.2		70-130
Carbon Tetrachloride	5.11		5.00		102		70-130
Chlorobenzene	5.80		5.00		116		70-130
Chloroethane	4.08		5.00		81.7		70-130
Chloroform	5.19		5.00		104		70-130
Chloromethane	4.74		5.00		94.8		70-130
Cyclohexane	5.00		5.00		100		70-130
Dibromochloromethane	6.26		5.00		125		70-130
1,2-Dibromoethane (EDB)	6.19		5.00		124		70-130
1,2-Dichlorobenzene	4.32		5.00		86.3		70-130
1,3-Dichlorobenzene	4.86		5.00		97.3		70-130
1,4-Dichlorobenzene	4.76		5.00		95.3		70-130
Dichlorodifluoromethane (Freon 12)	5.46		5.00		109		70-130
1,1-Dichloroethane	4.83		5.00		96.6		70-130
1,2-Dichloroethane	5.26		5.00		105		70-130
1,1-Dichloroethylene	4.86		5.00		97.1		70-130
cis-1,2-Dichloroethylene	4.98		5.00		99.7		70-130
trans-1,2-Dichloroethylene	4.77		5.00		95.4		70-130
1,2-Dichloropropane	5.13		5.00		103		70-130



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**QUALITY CONTROL****Air Toxics by EPA Compendium Methods - Quality Control**

Analyte	ppbv Results	RL	ug/m3 Results	RL	Spike Level ppbv	Source Result	%REC %REC	Limits	RPD RPD	Limit	Flag/Qual
<b>Batch B176085 - TO-15 Prep</b>											
<b>LCS (B176085-BS1)</b>											
Prepared & Analyzed: 05/03/17											
cis-1,3-Dichloropropene	5.68		5.00			114		70-130			
trans-1,3-Dichloropropene	5.89		5.00			118		70-130			
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	4.52		5.00			90.4		70-130			
1,4-Dioxane	4.51		5.00			90.2		70-130			
Ethanol	3.16		5.00			63.2 *		70-130			Z-01
Ethyl Acetate	5.42		5.00			108		70-130			
Ethylbenzene	5.60		5.00			112		70-130			
4-Ethyltoluene	4.90		5.00			97.9		70-130			
Heptane	5.04		5.00			101		70-130			
Hexachlorobutadiene	5.41		5.00			108		70-130			
Hexane	4.27		5.00			85.4		70-130			
2-Hexanone (MBK)	5.78		5.00			116		70-130			
Isopropanol	3.96		5.00			79.2		70-130			
Methyl tert-Butyl Ether (MTBE)	5.00		5.00			100		70-130			
Methylene Chloride	4.71		5.00			94.2		70-130			
4-Methyl-2-pentanone (MIBK)	5.42		5.00			108		70-130			
Naphthalene	7.30		5.00			146 *		70-130			Z-01
Propene	5.13		5.00			103		70-130			
Styrene	5.57		5.00			111		70-130			
1,1,2,2-Tetrachloroethane	5.24		5.00			105		70-130			
Tetrachloroethylene	5.57		5.00			111		70-130			
Tetrahydrofuran	4.68		5.00			93.6		70-130			
Toluene	6.09		5.00			122		70-130			
1,2,4-Trichlorobenzene	6.02		5.00			120		70-130			
1,1,1-Trichloroethane	5.04		5.00			101		70-130			
1,1,2-Trichloroethane	5.76		5.00			115		70-130			
Trichloroethylene	5.06		5.00			101		70-130			
Trichlorofluoromethane (Freon 11)	4.89		5.00			97.8		70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	5.08		5.00			102		70-130			
1,2,4-Trimethylbenzene	4.72		5.00			94.4		70-130			
1,3,5-Trimethylbenzene	4.78		5.00			95.6		70-130			
Vinyl Acetate	4.38		5.00			87.5		70-130			
Vinyl Chloride	4.70		5.00			94.1		70-130			
m&p-Xylene	10.8		10.0			108		70-130			
o-Xylene	5.76		5.00			115		70-130			
<i>Surrogate: 4-Bromofluorobenzene (l)</i>	7.80		8.00			97.5		70-130			



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**FLAG/QUALIFIER SUMMARY**

- \* QC result is outside of established limits.
- † Wide recovery limits established for difficult compound.
- ‡ Wide RPD limits established for difficult compound.
- # Data exceeded client recommended or regulatory level
- ND Not Detected
- RL Reporting Limit
- DL Method Detection Limit
- MCL Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

- Z-01 Compound fails the method requirement of 70-130% recovery for the LCS. Is classified by the lab as a difficult compound and passes the in house limits of 50-150%.



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#### CERTIFICATIONS

##### Certified Analyses included in this Report

Analyte	Certifications
<b>EPA TO-15 in Air</b>	
Acetone	AIHA,NY,ME
Benzene	AIHA,FL,NJ,NY,VA,ME
Benzyl chloride	AIHA,FL,NJ,NY,VA,ME
Bromodichloromethane	AIHA,NJ,NY,VA,ME
Bromoform	AIHA,NJ,NY,VA,ME
Bromomethane	AIHA,FL,NJ,NY,ME
1,3-Butadiene	AIHA,NJ,NY,VA,ME
2-Butanone (MEK)	AIHA,FL,NJ,NY,VA,ME
Carbon Disulfide	AIHA,NJ,NY,VA,ME
Carbon Tetrachloride	AIHA,FL,NJ,NY,VA,ME
Chlorobenzene	AIHA,FL,NJ,NY,VA,ME
Chloroethane	AIHA,FL,NJ,NY,VA,ME
Chloroform	AIHA,FL,NJ,NY,VA,ME
Chloromethane	AIHA,FL,NJ,NY,VA,ME
Cyclohexane	AIHA,NJ,NY,VA,ME
Dibromochloromethane	AIHA,NY,ME
1,2-Dibromoethane (EDB)	AIHA,NJ,NY,ME
1,2-Dichlorobenzene	AIHA,FL,NJ,NY,VA,ME
1,3-Dichlorobenzene	AIHA,NJ,NY,ME
1,4-Dichlorobenzene	AIHA,FL,NJ,NY,VA,ME
Dichlorodifluoromethane (Freon 12)	AIHA,NY,ME
1,1-Dichloroethane	AIHA,FL,NJ,NY,VA,ME
1,2-Dichloroethane	AIHA,FL,NJ,NY,VA,ME
1,1-Dichloroethylene	AIHA,FL,NJ,NY,VA,ME
cis-1,2-Dichloroethylene	AIHA,FL,NY,VA,ME
trans-1,2-Dichloroethylene	AIHA,NJ,NY,VA,ME
1,2-Dichloropropane	AIHA,FL,NJ,NY,VA,ME
cis-1,3-Dichloropropene	AIHA,FL,NJ,NY,VA,ME
trans-1,3-Dichloropropene	AIHA,NY,ME
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	AIHA,NJ,NY,VA,ME
1,4-Dioxane	AIHA,NJ,NY,VA,ME
Ethanol	AIHA
Ethyl Acetate	AIHA
Ethylbenzene	AIHA,FL,NJ,NY,VA,ME
4-Ethyltoluene	AIHA,NJ
Heptane	AIHA,NJ,NY,VA,ME
Hexachlorobutadiene	AIHA,NJ,NY,VA,ME
Hexane	AIHA,FL,NJ,NY,VA,ME
2-Hexanone (MBK)	AIHA
Isopropanol	AIHA,NY,ME
Methyl tert-Butyl Ether (MTBE)	AIHA,FL,NJ,NY,VA,ME
Methylene Chloride	AIHA,FL,NJ,NY,VA,ME
4-Methyl-2-pentanone (MIBK)	AIHA,FL,NJ,NY,ME
Naphthalene	NY,ME
Propene	AIHA
Styrene	AIHA,FL,NJ,NY,VA,ME
1,1,2,2-Tetrachloroethane	AIHA,FL,NJ,NY,VA,ME



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#### CERTIFICATIONS

##### Certified Analyses included in this Report

Analyte	Certifications
<b>EPA TO-15 in Air</b>	
Tetrachloroethylene	AIHA,FL,NJ,NY,VA,ME
Tetrahydrofuran	AIHA
Toluene	AIHA,FL,NJ,NY,VA,ME
1,2,4-Trichlorobenzene	AIHA,NJ,NY,VA,ME
1,1,1-Trichloroethane	AIHA,FL,NJ,NY,VA,ME
1,1,2-Trichloroethane	AIHA,FL,NJ,NY,VA,ME
Trichloroethylene	AIHA,FL,NJ,NY,VA,ME
Trichlorofluoromethane (Freon 11)	AIHA,NY,ME
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	AIHA,NJ,NY,VA,ME
1,2,4-Trimethylbenzene	AIHA,NJ,NY,ME
1,3,5-Trimethylbenzene	AIHA,NJ,NY,ME
Vinyl Acetate	AIHA,FL,NJ,NY,VA,ME
Vinyl Chloride	AIHA,FL,NJ,NY,VA,ME
m&p-Xylene	AIHA,FL,NJ,NY,VA,ME
o-Xylene	AIHA,FL,NJ,NY,VA,ME

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2017
CT	Connecticut Department of Public Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2018
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2018
RI	Rhode Island Department of Health	LAO00112	12/30/2017
NC	North Carolina Div. of Water Quality	652	12/31/2017
NJ	New Jersey DEP	MA007 NELAP	06/30/2017
FL	Florida Department of Health	E871027 NELAP	06/30/2017
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2017
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2017
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2017



39 Spruce St.  
East Longmeadow, MA.  
01028  
P: 413-525-2332  
F: 413-525-6405

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## AIR Only Receipt Checklist

CLIENT NAME Woodard + Curran RECEIVED BY: PB DATE: 4-28-17

- 1) Was the chain(s) of custody relinquished and signed? Yes  No
- 2) Does the chain agree with the samples?  
If not, explain: \_\_\_\_\_
- 3) Are all the samples in good condition?  
If not, explain: \_\_\_\_\_
- 4) Are there any samples "On Hold"? Yes  No  Stored where: \_\_\_\_\_
- 5) Are there any RUSH or SHORT HOLDING TIME samples? Yes  No
- Who was notified \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_
- 6) Location where samples are stored: Air Lab Permission to subcontract samples? Yes  No   
(Walk-in clients only) if not already approved  
Client Signature: \_\_\_\_\_

7) Number of cans Individually Certified or Batch Certified? NONE

### Containers received at Con-Test

	# of Containers	Types (Size, Duration)
Summa Cans (TO-14/TO-15/APH)	1	6 Lit
Tedlar Bags		
TO-17 Tubes		
Regulators	1	4 hr
Restrictors		
Hg/Hopcalite Tube (NIOSH 6009) (TO-4A/ TO-10A/TO-13) PUFs		
PCB Florisil Tubes (NIOSH 5503)		
Air cassette		
PM 2.5/PM 10		
TO-11A Cartridges		
Other		

Unused Summas/PUF Media:

Unused Regulators:

1) Was all media (used & unused) checked into the WASP?

2) Were all returned summa cans, Restrictors & Regulators and PUF's documented as returned in the Air Lab Inbound/Outbound Excel Spreadsheet?

Laboratory Comments:				9010	4620						

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Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

<u>Question</u>	<u>Answer (True/False)</u>		<u>Comment</u>
	T/F/NA		
1) The coolers'/boxes' custody seal, if present, is intact.	NA		
2) The cooler or samples do not appear to have been compromised or tampered with.	T		
3) Samples were received on ice.	NA		
4) Cooler Temperature is acceptable.	NA		
5) Cooler Temperature is recorded.	NA		
6) COC is filled out in ink and legible.	T		
7) COC is filled out with all pertinent information.	T		
8) Field Sampler's name present on COC.	T		
9) Samples are received within Holding Time.	T		
10) Sample containers have legible labels.	T		
11) Containers/media are not broken or leaking and valves and caps are closed tightly.	T		
12) Sample collection date/times are provided.	T		
13) Appropriate sample/media containers are used.	T		
14) There is sufficient volume for all requested analyses, including any requested MS/MSDs.	T		
15) Trip blanks provided if applicable.	NA		

Who notified of False statements?

Date/Time:

Doc #278 Rev. 5 October 2014

Log-In Technician Initials: PB

Date/Time: 4-28-17

18:15



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